

MachHome

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Solutions for Work, Play & Education

New 'Books!

PowerBooks, iBooks,
and Hot Accessories

In Every Issue!

Tips & Tricks

Do-It-Yourself Projects

Game Emulators:

How to play classic
games on the Mac

Mac Music How-To

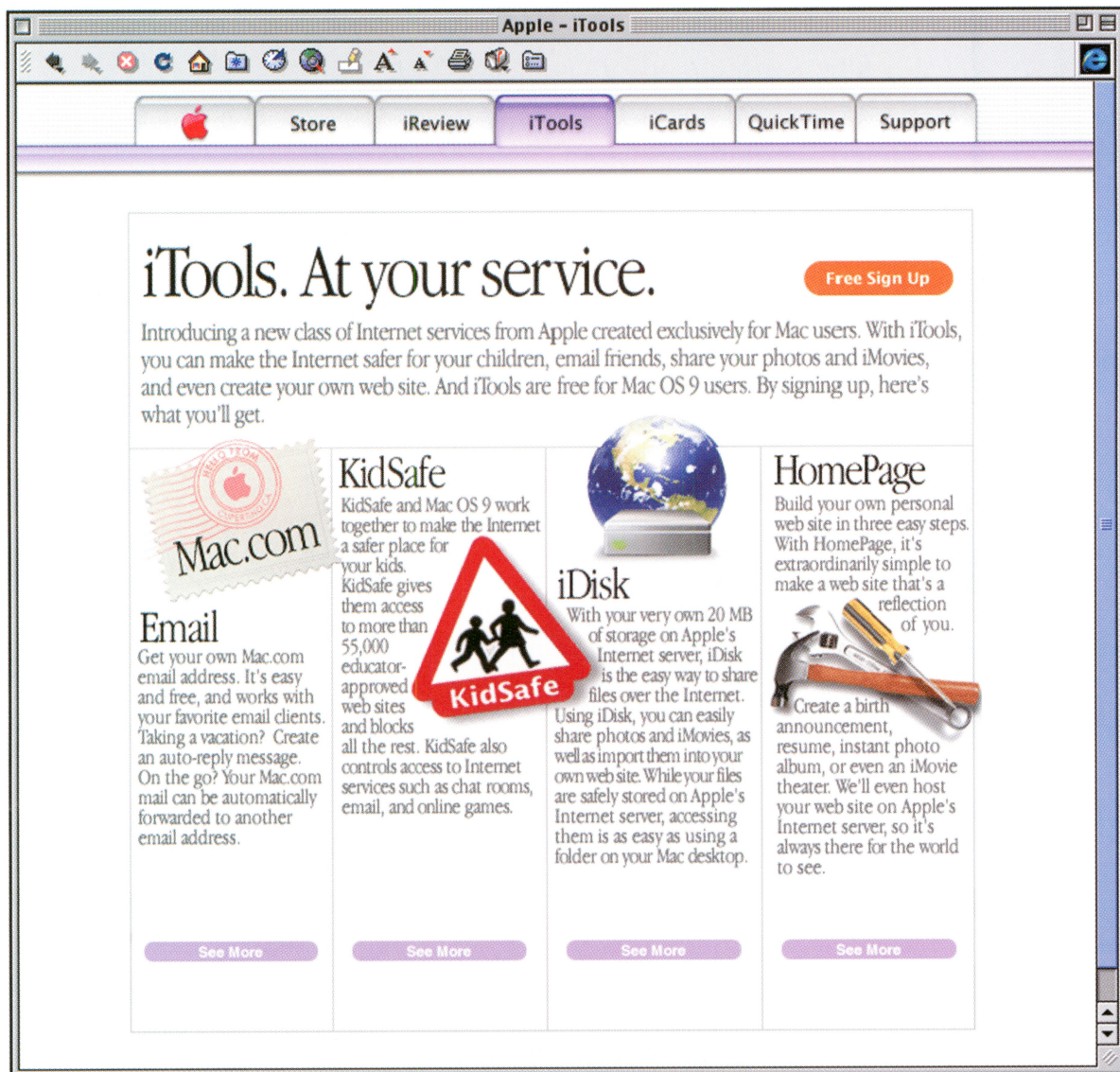
Tips and Products to Start Recording

Design Your Dream House

8 CAD Programs Compared

Kid-Proof Your Surfing





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Apple now gives you a faster, easier, safer, more productive way to take advantage of what the Internet has to offer. Just visit www.apple.com and click on iTools. Now you have full-powered email (with your very own "mac.com" address), 20MB of free Internet storage space, a rock-solid way to protect your kids and a personal website you can build in minutes.



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may 2000 contents

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volume 8, number 5

The Music Issue

Road Warrior: Going Mobile with Your PowerBook _____ 16

By David Weiss

MacHome's research indicates that you can take it with you after all. Your computer, that is. Now that Apple's latest portable systems offer much of the same power you'll find in a desktop model, you may be surprised at just how mobile you can be these days.

CAD Software for Home and Garden _____ 22

By Jeff Battersby

Forget the easel and tracing paper! Get busy with CAD (Computer-Aided Drafting) software and design the perfect add-on deck, garden, or new room for your house. It's easier than you think. No, really.

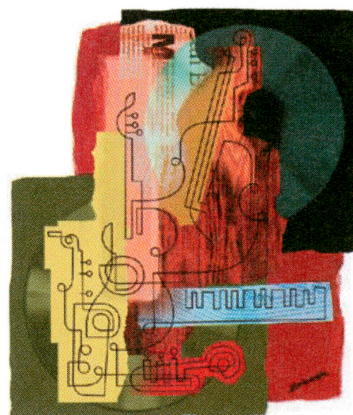
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By John Poultney

If you're not using your Mac for music, you're not being all you can be. Learn the basics of MIDI (Musical Instrument Digital Interface) operation in this article, then sit down and start composing.



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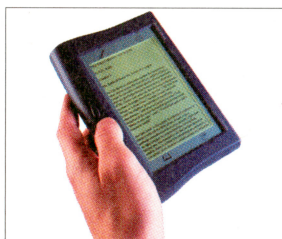
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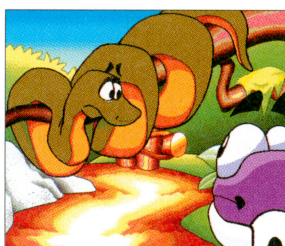
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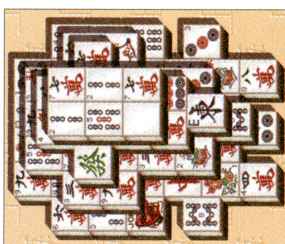
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- ★★★★★ Freehand 9
- ★★★★★ OneClick 2.0
- ★★★★★ Print Explosion
- ★★★★★ Print House
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Your Office: Hardware

- ★★★★★ Palm IIIc
- ★★★★★ Video FX
- ★★★★★ Rocket eBook
- ★★★★★ C-2020 Digital Camera
- ★★★★★ SynchMaster 900SL
- ★★★★★ Buslink USB Hard Drive
- ★★★★★ Strobe Pro Scanner

Entertainment

- ★★★★★ Shanghai: Second Dynasty
- ★★★★★ Seventeen Style Studio
- ★★★★★ Skittles 2

Your Family

- ★★★★★ World Talk/Talk Now!
- ★★★★★ World of Fun & Learning
Kindergarten
- ★★★★★ Starry Night Backyard 3

Our Rating System

- ★★★★★ **Mac-nificent.** You gotta get it. No flaws.
- ★★★★★ **Excellent.** Recommended even if it has a minor flaw or two.
- ★★★★ **Average.** Despite problems, still a worthwhile product.
- ★★★ **Below Average.** Has serious flaws that limit its usefulness or fun.
- ★★ **Poor.** Avoid this product at all costs.



Indicates iMac/G3 compatibility

from the chief [Editorial]

Great Adventures

Adventure lies around every corner in the Mac industry, and that's because you Mac users are a tireless, brazen, creative bunch, forever blurring the distinction between "consumers" and "professionals." New products announced at Macworld Tokyo open up unprecedented possibilities for mobility, spontaneity, and creativity — it's now possible, for example, to take a PowerBook to a mountaintop and come back with a fully edited, full-length feature movie.

Here at MacHome we also have our fair share of adventures and, as adventures are wont to be, they're not without their twists and turns. John Poultnery, MacHome's inimitable, charismatic editor, has moved on. We will all miss him greatly at MacHome, both as an editor, and as a friend. But don't be surprised if you see him pop up every now and again in future issues. Why, here he is now:

Help! I'm being held prisoner in a Read.Me file factory! No, just kidding. But David speaks the truth. I am moving on after a rewarding editorial spree here at MacHome. At one time I worried that the Mac really was in danger of being marginalized in the larger scheme of things. But in the past year and a half that's all changed dramatically: Apple's products are now among the most popular worldwide, and the company is getting back to where it belongs. (Hey, that period jibes almost perfectly with my tenure at MacHome — mere coinci-

dence?) So, though it is with a heavy heart, I feel confident that you, the readers, will be safe and warm under David Weiss' kind and generous gaze. Me, I'm heading off to a new editorial position at Miller Freeman/CMP's technical publications group, but I'll be using Macs, in case you were wondering. And I have Macs at home. I'll always be a Mac guy, and will sing the praises of these systems to anyone who will listen, even if I have to wear a sandwich sign some day. Good day everyone — my work here is done. If anyone out there wants to keep in touch, my personal email is jpoult7734@aol.com. Bye now.

Bye John. We will miss him indeed. But don't worry. You're in good hands. I've been with the magazine for over two years, and in this time of change I want to make sure you continue to get exactly what you need. My email address, while we're at it, is dw@machome.com. Tell me what you like about the magazine, and what you don't like. Tell me what you'd like to see more of, and what you could do without. But better yet, tell me what you're doing with your Mac. Maybe you're not taking a PowerBook and a video camera to the top of Everest — maybe it's a humbler project. But still, I want to hear about it. Who knows? We might want to share your project with your fellow readers.



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Think about it.

Why should you

have to buy a

USB hub, then hang

stuff off of it until it

looks like something out

of *Edward Scissorhands*?

Why fumble around

under your desk every

time you want to plug in

another device?

Instead, try this: A modular,

stacking system of

USB hubs, with adapters

for serial, SCSI and ADB ports.

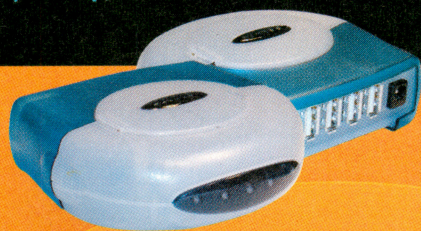
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(Okay, we admit it. A lot of plastic is involved.)



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Write On

[Your Letters]



Big Dilemma Revisited

I wanted to add another perspective to your "Big Dilemma" editorial in the January 2000 issue. I work at a Mac-only retailer. Up till very recently, Apple has normally indicated right on the box which OS was pre-installed on the CPU being purchased. This is no longer the case. When OS 9 was released we had no idea what was installed on the CPU. The upset readers you referred to would normally take their grievances to wherever the computer was purchased. Although we certainly informed these upset customers about the Mac OS Up-to-Date program, many of them were a bit more demanding and so we credited \$20 to accommodate a number of customers for the \$20 mail-in offer to upgrade.

My company had a very good quarter and we sold a lot of iMacs, but when you couple this with some of our holiday freebies, Apple's no-defective return policy on iMacs (and iBooks), customer returns based on various issues relating to the current iMacs (loud hum from hard drive, CD/DVDs not mounting properly, and USB issues due to the new USB configuration), \$20 is a big deal in retail.

"Daniel"

What the ... ? Part Deux

Regarding the letter by Richard Showstack, "What the...?" (February 2000), he insinuated that Mac users are conceited. I think the word he actually should have used was "smart."

Sandy Munoz

Shallow, Mindless, Self-Indulgent

Having just finished reading the exchange of views on *MacHome's* coverage of violent computer games in

your March 2000 issue, I feel compelled to respond to reviewer Alex Handy's defense of *MacHome's* promotion of violent video games.

Mr. Handy seems to justify his recommendation of *Tomb Raider III* because it's a "fun" game, because it imitates real life, which is violent, because Hollywood thrives on brutal violence, because no one is forced to buy it, and because *MacHome's* Entertainment section is for your "readers, not their children" (who, I guess, you don't think know how to read).

What a shallow, mindless defense! In other words, as a subscriber to *MacHome*, I must accept the fact that part of this computer magazine is R rated, that I need to hide it from teens and pre-teens (who might well benefit from the rest of the magazine in their use and understanding of Macintosh computers), and that I must ignore the consequences of violence on television, in movies, and in video games, which has been documented in study after study to play a significant role in the plague of violence that exists in our culture.

In addition to rating a product on its "graphical excellence", Mr. Handy and *MacHome* could review the product's impact on society, and then decide how much prominence to give it in the magazine, if any. If there was a product around that allowed hackers to more readily break into secure Websites, would you give it a top rating because it did its job well and tell your readers they "gotta get" it? Some magazines now ban tobacco advertisements because of the nature of the product, so there is plenty of precedent for *MacHome* to discourage

its readership from buying violent games rather than recommending them.

Bob Weingarten

As a long-time reader of *MacHome*, I must take exception with the anti-*MacHome* letter in the March 2000 issue about your *Tomb Raider III* review. I agree that your job is not to make moral judgements about what you review, but to do just as you did: review the product within the context for which it will be used. No one has to buy a particular product. And if people are so simplistic that they believe that real violence is caused by simulated violence in computer games, then they need to read the current research on the subject rather than pretending that they can actually contribute to stopping real violence by attacking software companies. Hey, it's ONLY a game. Besides, I suspect a lot of the anti-Lara Croft sentiment is really because some people can't stand to see a really strong woman — perhaps deep down they think a woman's place is barefoot and pregnant, running between the kitchen and the laundry room.

John Swift

I must say that I have a serious problem with your rebuttal to Randy Miller's letter regarding violence in computer games. As a journalist, I take great exception to a magazine allowing one of its writers space to "knock" any letter that condemns one of their pieces. Alex Handy had his chance to make his point the first time, now it's the readers' turn to offer their views. By allowing Handy space to refute Miller's letter, you sell the rest of your readership short. How about letting the rest of us make

up our own minds about which opinion we think is right? Ethically, Handy's original article should stand on its own merits. Its too late now to offer explanations, to set the record straight. Now that you've allowed Handy space to refute Miller, in all fairness you should allow Miller more space if he wants it. Handy states in his rebuttal that "if you take issue with the opinions expressed in our reviews, simply ignore them. They are, after all, only opinions." How incredibly self-indulgent! Miller has every right to offer his opinion -- hell, that why we live in a democracy! I would suggest, Mr. Handy, if you're not ready to accept that other people may have a difference of opinion regarding what appears in print under your by-line, then perhaps you should consider a career change.

Kim Cameron

✉ So then, I shouldn't be composing this reply? No, but seriously, interesting suggestions all. But occasionally publications do allow their writers space to respond. I saw it in Newsweek once. And hey, how 'bout this? Alex did consider a career change — he's not here anymore.

Name's MacHome. I Solve Problems.

Just received my first copy of *MacHome* - March 2000. On page 6, Zach Davis' letter, "Eeek! A Flasher!", solved a problem that has been bugging me since I bought my iMac. The flashing startup icon is now history. Thanks. If this is an example of your helpful mag, I'll be a long-time subscriber.

Ron Sheffer

Rah! Rah! Sis-Boom-Bah!

I was recently amazed and delighted at the service I received when dealing with a difficult laptop repair issue. 800-SOS-APPL was answered quite promptly by an articulate and knowledgeable person who had the authority to make a decision in my favor. Could it be that the history of spotty service is over and that Apple now sees the wisdom of differentiation through superior customer service? What a novel idea. Nice job, Apple.

Ron Skelton

Correction

MacHome credited an incorrect author for a letter entitled "The Chair" in last month's issue. The correct author is Bob Strickland. The responsible party or parties will be hunted down and dealt with in a merciless and violent fashion. **NMI**

write us!

Please write us with your comments!

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Hardware Heaven

Apple Releases Souped Up PowerBooks, iBooks, G4s at Tokyo Confab

Macworld Expo Tokyo was the scene of major hardware upgrade announcements spanning Apple's entire line of portable computers as well as some desktop models. All PowerBooks and iBooks flourished a speed and hard drive boost, while the flamboyantly fruit-colored iBook got a Special Edition of its own with a sleek new graphite casing that does its Power Mac G4 and the iMac DV SE siblings proud.

PowerBook Gold

The new PowerBooks with their G3 processors come in two variations: the **PowerBook 400 MHz** with 64MB of SDRAM (that's Synchronous Dynamic RAM to you, and without too much geek talk, it's a G3 configuration that gives you faster processor clock speeds), 1MB Level 2 backside cache, a 6GB hard drive, and a 6X DVD-ROM, for \$2,499. **The PowerBook 500**, for \$3,499, ships with 128MB of SDRAM, 1MB of Level 2 backside cache, a 12GB hard drive, and a 6X speed DVD-ROM.

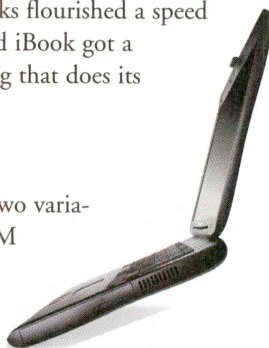
Both 'Books, which weigh only 5.7 pounds with battery and weight-saving module (or 6.1 pounds with DVD-ROM drive and battery) feature a 10-hour battery life (so you can watch your favorite movie on DVD — twice) using the system's dual-battery capability, and two 400 Mbps FireWire ports. They also ship with Final Cut Pro, the digital video editing package. Both models are upgradable to 512MB of SDRAM and 18GB of hard drive space.

Want a wireless connection to the Internet and other PowerBooks? No problem. The new PowerBooks come AirPort-ready, with a built-in slot for the AirPort card and two built-in antennas for communicating with the AirPort Base Station.

A Most Elegant Clamshell

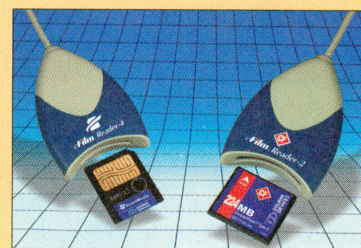
We've heard the original iBooks compared to many things, including a Barbie makeup case (that, from a middle-aged man who we might assume does not play with the dolls). However, our favorite analogy continues to be the clamshell.

The new graphite iBook SE, priced at \$1,799 (and which has a rather pearly tone to our eyes), is a rather remarkable sort of clamshell with, among other things, a 366 MHz PowerPC G3 processor. Aside from color and processor speed, the iBook SE mirrors the specs of the rest of the fruit-flavored line.



More Drive, Less Time

If you're a photographer, then you know how time-consuming is the task of downloading images to your computer. eFilm readers give you a faster way to transfer such digital photos. Delkin Devices has introduced two USB eFilm reader/writer drives for \$99 each: The **Reader-2** for CompactFlash Type II cards, and the **Reader-4** for SmartMedia cards



up to 128MB. The eFilm Reader-2 is backward compatible and can accommodate either a CompactFlash (3.3mm) card or a CompactFlash Type II (5.0mm).

The Reader-4 is designed for 3.3v (volt) SmartMedia cards or the older 5v cards, up to 128MB capacity. (A 128MB capacity eFilm SmartMedia card will be available by the end of this year. Right now, the highest capacity is 64MB for any brand.) Both readers are up to 45 times faster than a standard digital camera serial port, the company says, and can save wear and tear on your batteries. In addition, both readers can work with any type of CompactFlash or SmartMedia cards.

Delkin has also released a new 3.3v 64MB flash memory SmartMedia. It is designed for megapixel cameras and the higher resolution images they can produce. The card can be used 1 million times, the company says. The card can also be used with your Diamond Rio MP3 player and other portable digital devices.

Delkin Devices, 800-637-8087,
www.delkin.com

Continued on page 12

Get Inspired

If you're a teacher, student, Web designer or anyone who has to organize things, people, or ideas, you can get off to a roaring start with **Inspiration 6**, an upgrade to the popular flow-charting program from Inspiration Software.

Not only does Inspiration 6 facilitate the creation of beautiful and functional flow charts, it also acts as a visual learning tool, providing structure for your continuous and free-floating creativity.

The new version, which is \$69 per package and varies according to the number of licenses, gives you expanded options for using images to represent concepts and ideas.

The program ships with libraries of more than 1,250 symbols, including photographic, animated, and high-quality illustrations.

This upgrade also makes it easier to import images into the program, create symbols, or modify libraries of symbols and images. It also lets you integrate the Web into your work by allowing you to designate specific text for hyperlinks or use the auto-detection feature, which automatically creates hyperlinks for both URLs and email addresses.

Inspiration Software, 800-877-4292, www.inspiration.com

Idea Generator

If you are a digital imaging pro or desktop publisher, keep an eye peeled for **Random Eye images**, a software tool that helps you conceptualize and create images automatically. This package, for \$249, runs on Java-enabled computers, and uses the Internet to let you select from a series of archived images and view them instantaneously in a random stream of compositions.

The software retrieves images from photo agency Websites, CDs, or your hard drive, and compiles new photographic compositions at a rate of one layout every three seconds. The images are loaded onto layers palettes that determine position, rotation, opacity, and size. Jump in at any time to change the sequence of layers, request a topic search, or add an image.

Random Eye Technologies, 800-726-4126, www.randomeye.com

Thanks for the Memory

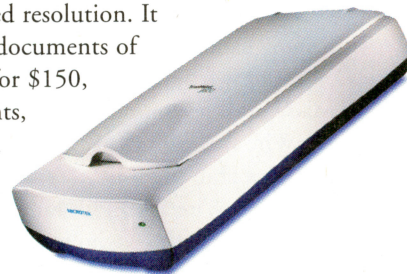
Kingston has designed a **512MB memory module**, specifically for the new PowerBook G3 400/500 MHz models. The new **SODIMM** (Small Outline Dual Inline Memory Module) is available in various configurations from 64MB up to 512MB, ranging in price from \$112 to \$893. Two 512MB modules let you double your PowerBook's memory capacity.

Kingston Technology, 800-337-8410, www.kingston.com

You Want Scanners?

MicroTek's got three live ones for the consumer market: the **ScanMaker 3600**; the **ScanMaker V6 UPL**; and the **ScanMaker V6 USL**.

The ScanMaker 3600, at \$100, is a color flatbed model that features 600 x 1200 dpi optical resolution and a 9600 maximum interpolated resolution. It connects via USB and scans documents of 8.5" x 11.7". The V6 UPL, for \$150, supports legal-sized documents, has a 36-bit color depth, and a USB port. It also comes with a slide adapter for 35mm slides. Both models include Adobe Photo Deluxe, Microtek ScanWizard 5, and OCR (Optical Character Recognition) software.



The ScanMaker V6 USL, for \$180, is similar to the UPL, but you can connect your Mac via a SCSI port or USB, and, in addition to the scanner software, comes with Adobe Photoshop LE.

Microtek Labs, 800-654-4160, www.microtekusa.com

Online in Quark

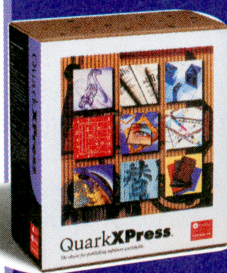
Desktop publishers who use QuarkXPress know that there may have been a few hoops to jump through if they wanted to put their files on the Web. That will end soon. The introduction of **QuarkXPress 5** includes new HTML and XML tools for Website publication that will allow all users to publish their documents online. No changing applications!

Version 5, which will ship during the 4th quarter of 2000 at a price as yet undetermined, allows you to

design and lay out documents for export as HTML, and includes support for sophisticated Web elements such as image maps, rollovers, meta tags, and forms. You will be able to create hyperlinks and control all basic HTML options such as background images and page titles. The program's popular style sheet will be complemented by Cascading Style Sheets formatting for the Web,

compatible with the 4.0 generation of Netscape and Internet Explorer and above. QuarkXPress 5 also lets you export documents in PDF format without using Adobe Acrobat Distiller. Use the bundled *avenue*.quark XTension to describe content in XML or to automatically insert and format XML content in your Quark document.

Quark, 800-676-4575, www.quark.com



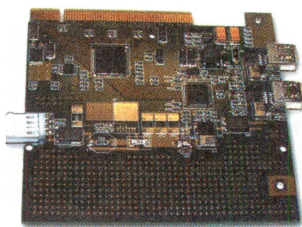
RocketFired

If you're using digital cameras and camcorders, audio recorders, and storage devices, you'll need high-speed data transfer without powering down your system to attach peripherals. New RocketFire FireWire devices can lend you a helping hand.

Meltdown Systems, in conjunction with MacWorks, has introduced the **RocketFire FireWire/USB PCI card** (\$180), the FireWire PCI card (\$140), the FireWire PC Cardbus card (\$150), and the 6-port FireWire Hub (\$250).

The FireWire/USB PCI card includes four ports: two USB and two FireWire, and is designed for those who want to connect new peripherals to older systems. The FireWire PCI card has two FireWire ports. The FireWire PC CardBus card is designed for the road warrior who needs FireWire connectivity for their PowerBook. The 6-port FireWire hub ties them all together.

MacWorks, 800-711-8679, www.macworks.com



Hot Digital Cameras

Ricoh has unveiled two new digital cameras, the **RDC-6000**, aimed at consumers, and the RDC-7 targeted toward professionals and those on the road.

You can use the RDC-6000 as a still camera or as a Web cam to broadcast over the Internet. The camera, which will be avail-

able in June, can capture full-motion video. It sports a 2.14 megapixel CCD (charge-coupled device) and a 4X digital zoom. The camera also has a full-featured flash and a host of customizable settings through its dial control.

If you travel a lot or are simply a power user, you may find the RDC-7 more to your fancy. Available in July, it has a 3.34 megapixel CCD and a 3X optical zoom for capturing JPEGs or uncompressed TIFFs. No prices were available as of press time.

Oh, and one more thing ... Ricoh has introduced an ultra high speed 12X media, called Ricoh Platinum, to support the first 12X CD-Rs. While it can record at lower speeds, it holds 700MB of data. You can get a 25-disc pack for \$39.

Ricoh, 800-225-1899, www.ricohcpg.com



Great Presentations

If you're a teacher, corporate trainer, or sales executive, have a look at AVerMedia's new suite of presenters: the **DVPresenter**, the **USBPresenter-SI** (still image), and the **USBPresenter-MV** (motion video). All are designed to mirror computer screen images to your TV, projector, and other video display and recording devices.

All use advanced video compression to mirror and transfer image data. They are especially designed to work with your iMac, iBook, or Power Mac G3/G4. The DVPresenter, at \$149, is slated to ship in the 4th quarter. Powered by the FireWire port, it lets you display full motion video up to 30 frames



per second, and is compatible with QuickTime. Use the USBPresenter-SI (\$69) for still image mirroring, and USBPresenter-MV (\$99) for full motion video display powered from your USB port.

A suite of software is included. AVerMedia MicroSystems, 800-863-2332, www.aver.com

Hardware Heaven

Continued from page 10

And that's nothing to sneeze at. The new iBooks are souped up versions of the original Blueberry and Tangerine favorites that, for \$1,599, now come with 64MB of RAM (expandable to 320MB) and a 6GB hard drive, double the capacity of the earlier models. They continue to ship with a 300 MHz chip.

The new Apple portables ship with

Mac OS 9, the newest operating system. All are Internet-ready with a 56K modem, a 10/100Base-T Ethernet port, and, of course, AirPort. (Please see this month's review of the new PowerBooks and iBook SE.)

On the Desktop

You remember the flap last fall over the availability of the 500 MHz G4 desktop computers. Now, Apple has come out with its original line of 400, 450, and

500MHz Power Mac G4s at their original prices of \$1,599, \$2,499, and \$3,499 respectively.

Apple also announced two new Macintosh Server G4 systems (400 MHz and 500 MHz) and a new Macintosh Server G4 500 MHz with Mac OS X Server software. Prices range from \$2,999 for the 400 MHz model to \$4,199 for both the 500 MHz model and the Mac OS X Server 500 MHz model.

Apple, 800-692-7753, www.apple.com

Scanning for the Net

If you're a small business owner, you're probably relying on the Internet more than you ever dreamed possible. That, and trading both email and images back and forth.

With the **HP ScanJet 5300C**, a \$299 USB product, you can scan, color copy, email, and fax by pressing one of four buttons at the front of the unit. Do you want to send photos to the Web or in an email? This scanner can automatically send the image to your email or Web application, and save it in the best file type and resolution for that application.

The scanner gives you photo quality results with 1200 dots per inch (dpi) optical resolution and 36-bit color. An OCR (Optical Character Recognition) package lets you scan printed documents. Optional accessories include an automatic document feeder, active transparency adapter, and 35mm slide adapter.

Hewlett-Packard, 800-752-0900, www.hp.com



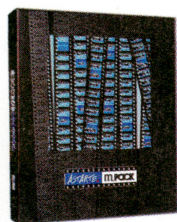
Video Power

If you've got a Power Mac G4, **ASTARTE** makes an **MPEG encoder** especially for you. The company is now shipping version 3.5.1 of **M.Pack**, the \$399 MPEG encoding software package that is specifically optimized for the Power Mac G4 Velocity Engine.

The new version gives you encoding speeds twice as fast as the previous version, the company says, and now supports the creation of files larger than 2GB under Mac OS 9. This software can convert QuickTime movies to MPEG format, and can even be used with Adaptec's Toast to create video-CDs.

You can batch process and save your preferred settings as a unit that can be applied to any source movie. The program encodes in MPEG-1 and MPEG-2 formats. M.Pack is also bundled with all of

ASTARTE's authoring tools, including DVDelight, DVDEExport, and DVDirector. *ASTARTE, 651-653-6247, www.astarteusa.com*



PowerDock

Well, we're assuming you already ordered your new PowerBook, and now you need to plug in all those perky peripherals. Pilot Technologies has introduced an updated BookEndz, a PowerBook docking station, called **2000 BookEndz**, for the new PowerBook 400/500 MHz line. The docking station, for \$230, lets you attach your peripherals to the dock once and then slide your PowerBook into the dock to connect everything at one time.

The new BookEndz model (model 00300 for the brand new PowerBooks) replicates all the ports on your new 'Book, including two USB ports, two FireWire ports, RJ-45 Ethernet port, RJ-11 modem port, 7-pin S-video and composite video, 3.5mm audio in/out, SVGA video connection, and power input.

But the important question is, does it look nice? Need you ask? The company has ensured that the color and texture of the BookEndz unit matches the PowerBook G3 so that when docked, they look like an integrated system.

Pilot Technologies, 612-828-6002, www.pilot-tech.com



Consumer Camcorder

Looking for a nice little camcorder to take movies and stills? Look no further than the **Canon Optura Pi** digital video (DV) camcorder. This unit features a progressive scan CCD (charge-coupled device, the chip used to capture images), three shooting



modes, optical 12X compact zoom lens, FireWire input and output, an advanced accessory shoe, and analog line input. Use it to transfer home movies recorded on VHS format to digital format. Or create new digital movies to store and edit on your computer.

This camcorder, which sells for \$1,699, comes in an ultra-compact body, featuring a 200K pixel 3.5" flip-out LCD view screen, enhanced color rendition, and improved low-light capability.

Canon, 800-652-2666, www.usa.canon.com

Inkjet Junkie

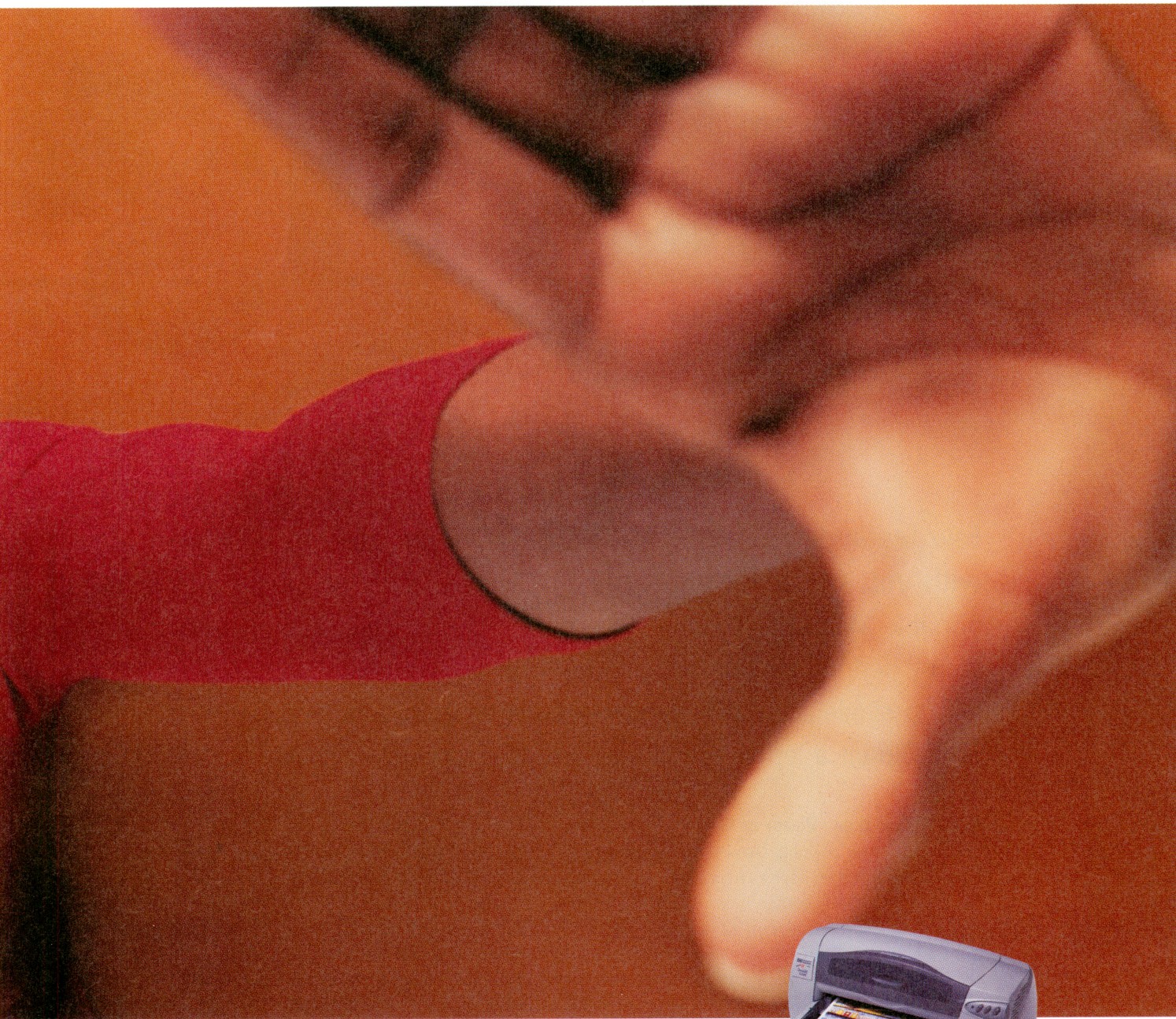
Are you itching to print your color photos without having to trek down to the photo finishing lab? Want to turn around and print a high school term paper? **The Epson Stylus Color 670** inkjet printer gives you this versatility. Designed for home users who want photo quality images and sharp black text, the printer, which will be available in May for \$99 (after the \$30 rebate), has a maximum resolution of 1440 x 720 dpi. It can print five black ink pages per minute and 3.5 color or graphic pages per minute, and connects to your Mac via a USB port. It handles legal, letter, A4, and other size papers. *Epson, 800-463-7766, www.epson.com*



Go Wide.

Introducing the new HP DeskJet 1220C printer designed for the Mac.

If your work demands a wider range of capabilities, the Mac-compatible HP DeskJet 1220C delivers the big picture — up to 13" x 19" including 11" x 17" full bleed — *right out of the box*. It features HP's enhanced Color Layering Technology for true-to-the-original printouts and an alternative 2400 x 1200-dpi mode using photo paper. With speeds up



Go Wild!

Big, brilliant color printouts up to 13" x 19"!

to 11 ppm for black and 9.5 ppm for text and graphics, you can go as wild as you want and still print faster than you ever thought possible. Look for the HP DeskJet 1220C/PS PostScript printer, available with Adobe® PressReady™ Basics for \$599. Stop by your HP retailer today. Discover how wide great printing can be. **True to the Original.**



\$499*

HP DeskJet 1220C

Going

Few feelings rival the giddy thrill of being able to take your Mac with you wherever you go. And once you take the plunge into a portable Mac, you'll be met with a veritable cornucopia of packable yet sturdy peripherals that will allow you to do everything you need to do, all from a single piece of luggage — back up your data, surf the Web, scan a photo, print a letter, edit video, (whew!), and even burn a CD.

Choose Your Book: Power or i?

Apple makes two portable Macs — PowerBooks and iBooks. PowerBooks have faster processors, they're more expandable, and they have a larger screen — 14" to the iBook's 12" — and so PowerBooks are more expensive. The new PowerBook comes in two speeds — a 400MHz version for \$2,499 and a 500MHz version for \$3,499. (For a complete run-down on all the specs, see this month's NewsWire.) iBooks, driven by a 300MHz processor, cost \$1,599, but Apple has just announced a Special Edition iBook with a 366MHz processor, for \$200 more. The regular iBooks come in tangerine and blueberry flavors, and the Special Edition is graphite colored.

The iBook has one USB port for connecting to external peripherals, a phone port for its internal modem, a speaker jack, an Ethernet port for connecting to networks, and a CD-ROM drive. PowerBooks provide all of that, in addition to a second USB port, a PC card slot for connecting to a variety of peripherals, a microphone jack, a video-out port for sending video to professional editing decks, support for a second monitor, and two FireWire ports for connecting "high-speed" peripherals such as digital video cameras and certain drives and scanners.

Expansion Bay Modules

One of the most elegant features of the PowerBook is the expansion bay, a slot on each side of the keyboard that accept batteries, hard disks, and other modules. As long as the bay isn't in use, you can pop a module in and out at will, by means of slick, concealed lever on the underside of the PowerBook. PowerBooks ship with a battery in one

Mobile

The New Portables and a Guide to Their Gear

bay and a CD-ROM drive in the other.

PowerBook batteries are expected to last about five hours, but that probably only happens when you're using the PowerBook very little — I've usually gotten about three to four hours of heavy-duty usage out of a PowerBook battery. They sport cool lights that tell you if juice is running out, which comes in especially handy if the PowerBook is asleep and you can't see the indicator on the screen. Put two batteries in at once, and it runs for twice as long. You can purchase extra batteries from the Apple store (www.apple.com) for \$129.

VST makes many PowerBook peripherals, and provides a variety of additional expansion bay modules, such as a Zip drive (\$229 for the 100MB version, \$299 for the 250MB version), a SuperDisk drive, which also accepts floppy disks (\$220), and, get this, a CD-RW (\$440). That's right, just slide in a slim, portable CD-RW module and you can burn 650MB CDs right from your PowerBook. Remember, you can also use a CD-RW as a regular old CD-ROM drive.

I tried out a pre-production model of the VST CD-RW, and it worked beautifully. It took about seven minutes to burn a CD with 200MB of music files.

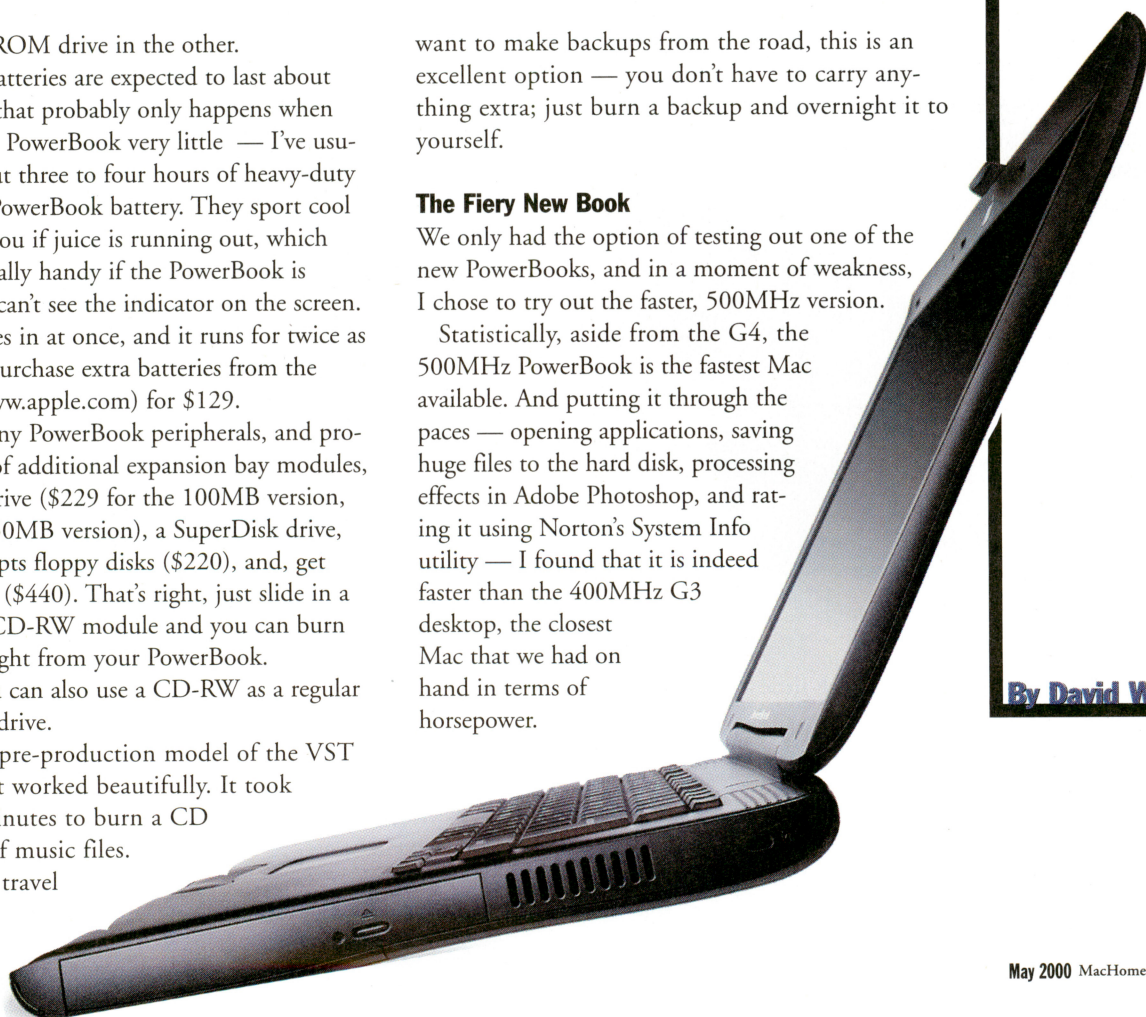
If you want to travel light, and you

want to make backups from the road, this is an excellent option — you don't have to carry anything extra; just burn a backup and overnight it to yourself.

The Fiery New Book

We only had the option of testing out one of the new PowerBooks, and in a moment of weakness, I chose to try out the faster, 500MHz version.

Statistically, aside from the G4, the 500MHz PowerBook is the fastest Mac available. And putting it through the paces — opening applications, saving huge files to the hard disk, processing effects in Adobe Photoshop, and rating it using Norton's System Info utility — I found that it is indeed faster than the 400MHz G3 desktop, the closest Mac that we had on hand in terms of horsepower.



By David Weiss

We found it to be about 20% faster overall, which is substantial, but not quite the 25% increase one would expect from an extra 100MHz. Still, if you're going to be using this PowerBook for serious video editing, the extra boost from the 500MHz version will certainly pay off. If you're not going to be working with video or high-end graphics day in and day out, then the 400MHz model may be a better fit for you, especially since it's \$1,000 cheaper.

Because of the new PowerBook's FireWire ports, it is considerably sexier, particularly in the eyes of video aficionados. With this simple addition, the new PowerBooks now let you edit your video from wherever you happen to be shooting. It performs quite well in this respect — I captured some fairly high-resolution video into the PowerBook, which took up over 300MB of disk space, in a matter of minutes.

Playing with FireWire

The previous generation of PowerBooks has indirect ways of working with FireWire. In particular, they can use a FireWire card that plugs into the PC card slot — Newer Technologies offers one for \$159, and VST sells one for \$136. The downside to a PC card solution, however, is that it requires external power. That means, of course, that if you're using the PowerBook for video, you're going to need to either confine yourself to interior locations or use an extra-long extension cord.

VST also makes a series of slick little FireWire drives that come in different sizes and a wide variety of storage capacities. For PowerBooks, VST's "slimline" drives make excellent companions. One is about as big as a wallet, and rugged. (We reviewed a 2GB version in August, 1999, and found

that it performed quite well — we saw an average data-transfer speed of about 2MB per second.) Since then, both Apple's FireWire support drivers and VST's own drivers have undergone some revision. With the new FireWire drives, I saw an average of 7MB per second flying from one drive to another. That's equivalent to about seven packed floppy disks in one second — speedy indeed.

Files over the Airwaves

If in your travels you come to an office with wireless networking capability, it's convenient to be able to just sit right down at any available desk, pull out your PowerBook, and hop on the network to share the printers, files, and the network connection of your host. AirPort is Apple's wireless network, and the first Mac to support AirPort was the iBook. It uses a Base Station, which mediates between AirPort cards that must be installed in each of the Macs on your network. You can purchase an AirPort card for \$99 and use it in any and all of the latest Macs, including the newest PowerBooks.

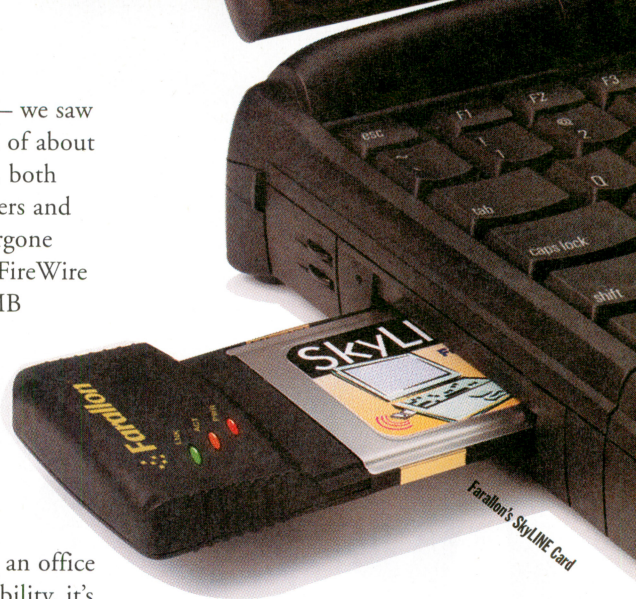
For those with older

PowerBooks, Farallon provides a \$249 SkyLINE card,

which pops into your PC card slot and allows you to hop onto most wireless networks, including

AirPort.

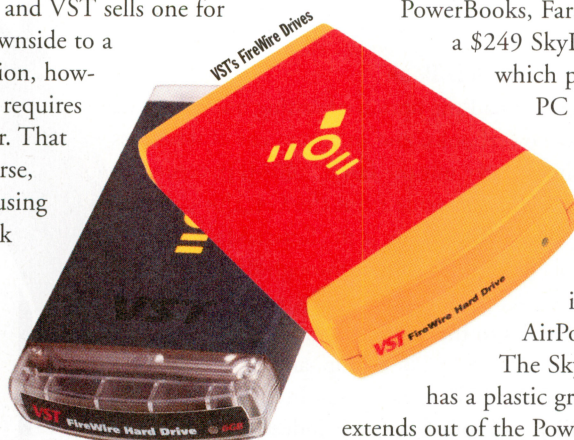
The SkyLINE card has a plastic grip that extends out of the PowerBook when the card is installed, and it sports a small panel of activity lights. Installation is relatively easy. As long as the AirPort Base Station is set to Encryption Off, The SkyLINE immediately detects the network, and you're on. Performance is not too bad. The version we tested is rated at 2 megabits per second (Mbps), and although this is slow in the world of networks, it is certainly serviceable for copying files and printing.



The New iBook

As I said, the newest member of the Mac family is the iBook Special Edition. The SE's only distinction is a 66MHz speed bump over the 300MHz processors of the blueberry and tangerine iBooks. I found this a bit disappointing, as it's very difficult to perceive a difference of 66MHz. With a stopwatch in my hand, I did notice a slight improvement in processing digital images with the faster iBook. Rating the new iBook with Norton's System Info utility, it came out a hair ahead, as expected. But for surfing the Web, writing letters, designing flyers, or even playing games, you'd be hard-pressed to notice a difference. For the Special Edition iBook to be really special, I would have wanted it to offer a bit more than the regular iBook — perhaps a mic jack, a second USB port, a FireWire port, more than 64MB of RAM, or some combination of these special features.

If you're traveling with an iBook, it's a good idea to take along a backup drive. VST, tireless purveyors of all things PowerBook, also make external hard drives that are perfect for the iBook. Like the FireWire drives, VST's USB drives are wallet-sized. They pack 6GB of memory, and come in all three iBook colors. Unfortunately, USB drives require external power, so you can't get to your data when you're in a café or out in the woods. But thankfully, the VST power cords are lighter and flatter than most, making them easy to pack. This drive copies data about as quickly as other USB hard drives —



here's digital. And then there is Digital. The standard in optics
meets on-the-edge technology Digital. The biggest name in cameras
in the smallest package Digital. Extreme Digital. Canon PowerShot Digital.
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Canon

www.powershot.com

it's not nearly as fast as FireWire, but it holds its own. It can copy 1MB, for example, in about four seconds.

Pack Your Bags

If you're traveling with a PowerBook, you might want to consider using a special piece of luggage designed expressly for this purpose. Kensington (www.kensington.com) and Targus (www.targus.com) are two of the more popular manufacturers of PowerBook cases, and I tried out a few from both of these companies.



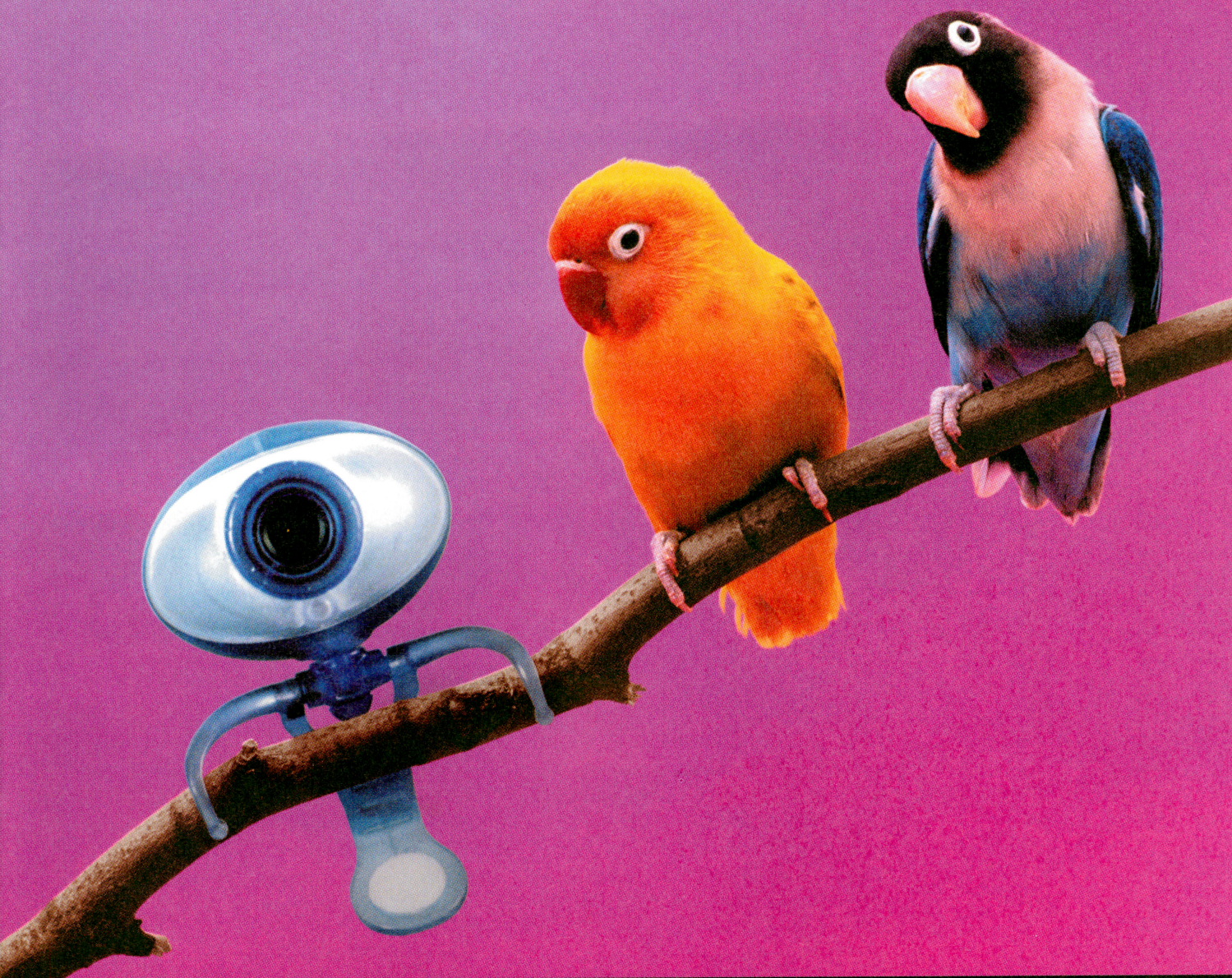
Kensington's Deluxe Notebook traveler (\$35) is a good, basic PowerBook bag. It's about as slim as you're going to get. Aside from holding your PowerBook, it also has pouches for small components such as cell phones and Palm devices, and two larger pouches — one inside, and one outside — for papers, expansion bay modules, hard disks, and the like. The outer one is slightly padded. It's got a tubular foam grip that will prevent the handle from forming a permanent impression on your hand, and a padded shoulder strap to ease the strain on your neck. A much beefier version, the Executive Notebook traveler (\$99), is about twice as wide, and much more thoroughly padded. I was able to stash three expansion bay modules and two external hard disks into its various folds, and I was able to keep each of the components from banging into each other. Targus' Top Loading Universal case is similar, and a little less expensive (\$70), but it lacks the foam handles.

Kensington also makes a funky, versatile piece of PowerBook luggage called the Saddlebag (\$70), which you can carry in your hand or on your back. Targus makes a Deluxe Backpack (\$90), a PowerBook backpack with serious, utilitarian look.

iBooks are a little taller than PowerBooks, so they'll put a stretch in most conventional PowerBook bags. But Dr. Bott makes an iBook Bag that not only fits the iBook, but also comes in the three iBook colors — it's lined with a translucent plastic trim, and it sports a zippered, curved, outside pocket, all of which work together to say,

"iBook." It has two interior padded pockets that are perfect for the power supply or an external USB drive. The handle is lined with suede, which won't be as comfortable as foam, and the shoulder strap's only relief is a thin strip of hard rubber. This strap is sure to put a dent in your shoulder after a hike across a large airport. **MII**

New Portable Macs	Price	Thumbs Up	Thumbs Down	Rating
PowerBook/500 Apple Computer 800-538-9696 www.apple.com	\$3,499	Blazingly fast Processor, expandable, good amount of RAM, ample video memory, has 2 FireWire Ports, no price bump	Expensive, not proportionately faster than a 400MHz Mac	★★★★
iBook SE Apple Computer 800-538-9696 www.apple.com	\$1,799	Faster than a regular iBook, sophisticated color	Not that much faster than a regular iBook, no additional enhancements or extra RAM	★★★★½
Storage				
FireWire Drive VST Technologies 978-263-9700 www.vsttech.com	6GB, \$440 25GB, \$1,100	Small, light, sturdy, high-capacity, fast performance	A bit expensive	★★★★
USB Hard Drive VST Technologies 978-263-9700 www.vsttech.com	\$375	High capacity, good performance	Expensive, requires AC power	★★★★
FireWire Zip 250 Drive VST Technologies 978-263-9700 www.vsttech.com	\$280	Speedy performance	250MB Zip disks are a bit expensive	★★★★
Expansion bay Modules				
Zip 250 VST Technologies 978-263-9700 www.vsttech.com	\$229	Quick, reliable	Disks are expensive	★★★★
SuperDisk VST Technologies 978-263-9700 www.vsttech.com	\$220	Supports SuperDisks as well as floppies	A bit slow	★★★★
CD-RW VST Technologies 978-263-9700 www.vsttech.com	\$440	Amazing technological breakthrough	None that I could find	Unrated (Pre-release version)
Extra Battery Apple Computer 800-538-9696 www.apple.com	\$129	Long-lasting, has indicator lights	Not available from third parties	★★★★
Miscellaneous Gear				
SkyLINE Card Farallon 510-346-8000 www.farallon.com	\$249	Easy to install, has indicator lights	A bit expensive	★★★★
FireWire Card VST Technologies 978-263-9700 www.vsttech.com	\$136	Inexpensive, Fast, can connect with Digital Video equipment	FireWire devices need external power	★★★★½
FireWire 2 Go Newer Technology 316-943-0222 www.newertech.com	\$159	FireWire devices need external power	Fast, can connect with Digital Video equipment	★★★★

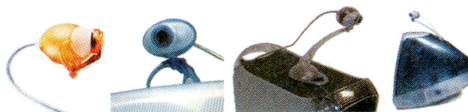


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By utilizing isochronous transfer technology (really fast), delivering 320 x 240 (CIF) at 30 fields-per-second (really smooth), the Kritter[®]USB provides the highest-quality video possible in the USB environment. This means a bigger picture, better color and lots of second looks. For more information and complete specifications, visit us at www.irez.com/cool



Closes up / Sets up on flat surfaces / Optional wand and base assembly

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IREZ
Looking beyond the beyond...



Designing Your Dreams

By Jeff Battersby

A Look at CAD Programs

Ahh Spring. It's baseball, barbecues, beaches and... backyard projects. Typically, if you had a worthy project, you might grab some graph paper, a ruler, a pencil, and an eraser to meticulously sketch out the details of your summer task. Once complete, you could bound off to your local lumberyard, gather all your materials, and begin the work at hand.

But what if you could design your project on your Mac? What if each dimension could be created with a flash of the mouse and the press of a key, rather than counting grids on graph paper or using a ruler to convert feet to quarter-inches? And even better, what if, after you've completed your initial design, you could lay out furniture and virtually walk through your new design? If that were possible, and believe me, it is, you'd be talking about Computer Aided Design. Computer Aided Design (CAD) programs, which were once the purview of progressive designers and architects, are intended to make the job of designing and creating your projects — whether it's as insignificant as a small deck or as magnificent as a new house — a simple, nearly painless process. The CAD programs available for your Mac run the gamut in terms of their sophistication and capabilities. Some simply allow you to design two-dimensional diagrams, like a standard

blueprint, while others allow you to create fully rendered, three-dimensional models that you can virtually “walk through.” Of course, you can expect to pay a premium for the more sophisticated 3D programs, but you'll also be surprised to find that there are some pretty powerful tools available for absolutely nothing.

Choosing the Right Program

Frankly, you don't really need a CAD program to design your home improvement project. You can simply use a program like AppleWorks. But what you'll be missing are the features that make CAD programs truly useful: measuring tools, three-dimensional views, libraries of standard windows, doors, and furnishings that you can easily place in your drawings. If you were to use a program like AppleWorks you'd have to create all of these items by hand. Also, because CAD programs are specifically designed with building in mind, they allow you to designate a wall's thickness and to place lighting in your project. Both of these features are what allow you to get a true feel for your finished product before you've driven a single nail.

In order to select the perfect program you should consider whether you need a 2D or a 3D program, whether or not you'll need to purchase extra libraries for doors, windows, fixtures and

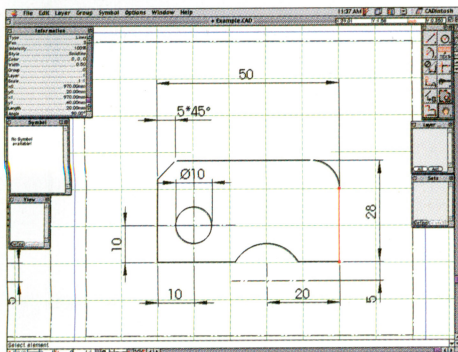
lighting, and of course, how much the program costs.

Two-Dimensional Design Programs

If you ever took drafting in junior high or high school, 2D design programs will be quite familiar territory. (Excepting, of course, the maniacal shop teacher hovering over your shoulder, prepared to disparage your every pencil scratch.) The two programs we'll look at — Lemke Software's CADintosh and Microspot's MacDraft — both provide you with a number of tools to sketch just about anything you can imagine.

CADintosh

Of the two 2D design programs we looked at, CADintosh was the less intuitive. When you create a new document you're met with a blank design document and the CADintosh toolset.



CADintosh

Unlike most standard Mac drawing programs, where you select a tool and then click-and-drag to create a new object, CADintosh requires you to select the starting and ending point for your object in order for it to be created. Unfortunately, this method makes line and circle creation more like guesswork than drawing, and the lines you create are often skewed and need to be adjusted manually.

CADintosh's most useful feature is its Parallel Line Tool. It actually works like a Duplicate tool, but places your copied object exactly where you want it to be. The program also has a unique dimensioning tool that allows you to discern the dimensions of an object and then automatically display the dimension with markers showing where the two points being measured are. For example,

if you need to know the diameter of circle, just select the Dimension tool, click once on the circle that you want a dimension for, and then click once more where you want the dimension information to appear. You'll immediately see a line pointing to the circle with a number displaying the circle's diameter. The program also allows you to assign any of its many commands to a combination of keys, making it possible to customize the program to suit your needs — a feature unique to CADintosh.

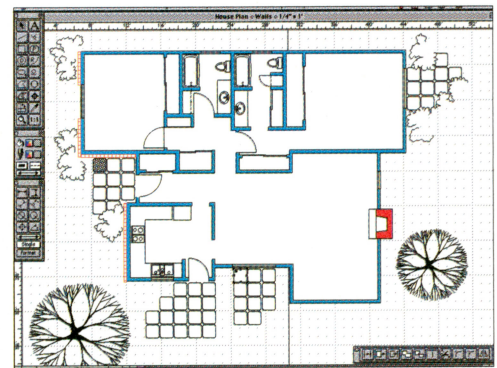
MacDraft

As far as 2D drafting programs go, Microspot's MacDraft is top-notch. Like CADintosh, MacDraft also includes a measuring tool that allows you to select two points on your drawing and a call-out display the distance between the two points. But MacDraft goes many steps further, by offering you a complete set of normally functioning line, circle, and rectangle tools, as well as generous libraries of objects that you can easily drop into your drawings.

Often, when you're drawing something, you may want to create a smaller circle within a larger circle. In order to do this with most programs, you first need to create two circles and then use an Alignment function to line up the centers of the two objects. MacDraft does these programs one better with its Offset Circle tool. All you need to do is select the Offset tool and then click on the circle that you want to duplicate. You'll immediately see the outline of your new circle anchored within the original circle. Dragging your mouse enlarges or shrinks the new circle, and clicking again sets your new circle.

Three-Dimensional Design Tools

Stepping up from 2D CAD programs to 3D programs is like jumping from triple "A" baseball to the Major Leagues: the fastballs may be faster, the curveballs may bend harder, but just being in the "Bigs" makes all the difference in the world. While 3D design tools can be quite complex, these programs allow you to gain a completely different perspective on your drawings. Instead of looking at a flat two-dimensional world, now



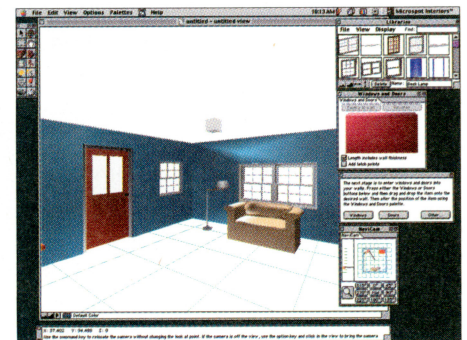
MacDraft

you can actually see what your project will look like when it's finally complete.

3D design programs fall into two very distinct categories. The first group is geared toward consumers and home users. The second is geared toward professionals — architects, engineers, and designers — and they all, with the exception of Microspot Interiors, have a technical learning curve that equals their capabilities.

Microspot Interiors

Microspot's second CAD offering is, truthfully, not really a CAD program at all. It's more of a room design program with some decidedly 3D-CAD-like features. What this means is that it has some distinct limitations — mainly its relatively meager drawing capabilities — but, once created, the 3D view of your design is amazingly accurate.



Microspot Interiors

To create your room, you drag two-dimensional lines onto a grid to define your wall space. The program allows you to create either one large, box-shaped room or individual sections of wall. (Unfortunately, the program will only let you create walls at right angles.) Once the initial room is created, you immediately move into 3D mode where

you can add windows, doors, furniture, lighting, and a variety of other objects to your drawing. Adding windows and doors immediately adds a "see-through" opening to your walls. Adding lights defines where shadows will appear when the final rendering is complete, and adding furniture gives you a reasonable idea as to what the space will look like when you actually build your project. The downside to Interiors, other than its limited drawing functions, is its dearth of library objects. While the program does come with several items, they tend to be limited. For example, for lighting, there are a total of thirteen objects, two of which are switches and the rest of which consist mostly of wall sconces and desk lamps.

Design Workshop Lite, Classic, and Professional

These three programs are the creation of Artifice Software and they're amazingly versatile. All three work exactly the same with the only difference between them being price, the number and type of free objects libraries offered, and certain limitations in what you'll be able to create. All three programs can view any design that's been created in any of the three versions. All three are available for both Mac and Windows.

You'll find the full, working version of DesignWorkshop Lite right on our MacHome CD, or you can download it from the Artifice Website. You'll be amazed at just what you can do with a free product. DesignWorkshop Lite limits you to creating 100 solid objects and 1000 polygons, and comes with an online "sampler-set" of objects to place in your project. For a few more dollars you can purchase a CD that includes library objects and 15 sample buildings.

The Classic version includes the same drawing features as the Lite version but allows you to create 1,000 solid objects — enough to design a relatively detailed small house — and costs under \$100. This version also comes with a much larger object library including 250+ objects, which is about 80% of what's included in the Professional version. This collection is limited mostly to objects that you'll find in the home.

DesignWorkshop Professional is geared toward the professional design community, and as such has a much higher price tag and a number of excellent high-end features. This version allows you to create an unlimited number of solid objects, but one of the program's most excellent features is its free, high-quality image rendering at Artifice's companion Website, RenderCity.com. Using DesignWorks Professional's Radiance Export you can create images that can be sent to RenderCity, where they will be rendered and emailed back to you as high-quality, 768 x 768 pixel images. (Higher resolutions are available for a fee.) The Professional version also allows you to create QuickTime Movies of walk-throughs and sun studies, which help you to get an idea what your project will look like at different times of day. The Professional version also includes unlimited hours of tech support.

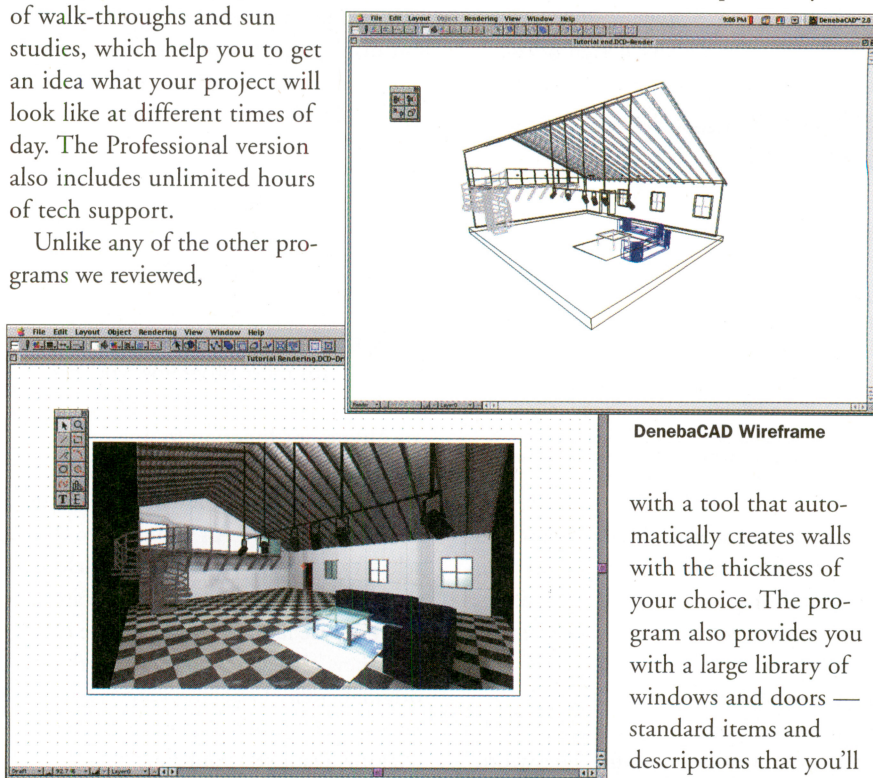
Unlike any of the other programs we reviewed,

your walls using a special cutting tool and they too allow you an instant view to the inside of your building. Overall, the experience of creating a building in DesignWorks was easy and the ultimate in "instant gratification."

DenebaCAD 2.0

DenebaCAD, along with DesignWorkshop Professional, marks the beginning of true 3D architectural design tools. Created with architects in mind, DenebaCAD is, however, still very accessible to the average user.

With DenebaCAD you begin creating your project in 2D mode by drawing interior and exterior walls from an overhead, standard drafting view. Like MacDraft, DenebaCAD provides you



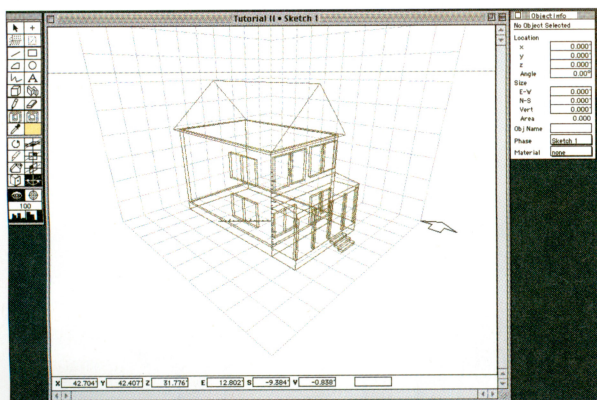
DenebaCAD Rendered Drawing

DenebaCAD Wireframe

with a tool that automatically creates walls with the thickness of your choice. The program also provides you with a large library of windows and doors — standard items and descriptions that you'll find in a design catalog.

You can add these items to your walls simply by dragging an item from a library to the position on the wall where you want it to appear.

Unlike Interiors or DesignWorkshop, you don't immediately see your project in three dimensions as soon as you create your drawing. Instead you're required to define your 3D space by selecting a wall and then telling DenebaCAD how tall the wall is. Once you've defined both your 3D dimen-



Design Workshop

sions you need to "extrude" your walls in order to view them in 3D mode.

Once your entire drawing is complete you can add more objects to it — such as chairs, tables, and lighting — as well as textures and floor coverings. When you've completely furnished your design, you can then render your drawing as a high-quality image or a QuickTime VR movie.

ArchiCAD

ArchiCAD is expensive, to the tune of \$4,295. But it's so powerful that what you can create borders on the ethereal.

Like DenebaCAD, your ArchiCAD creations begin in a 2D design mode. Any item you create can have a "style" already applied to it. So, for example, if you want to create a wall with insulation, wood siding, and sheet rock, you simply select that wall type and draw your wall, which will take on those qualities. Once anything is created in 2D mode you can easily switch to 3D mode and immediately view your project. ArchiCAD has several powerful design tools, but one that truly stands out is the program's Roof tool. This feature lets you make quick work of creating dormer, multi-hip, and valley roofs with almost the same ease as simple walls.

Like DenebaCAD and DesignWorks Professional, ArchiCAD gives you the option of creating QuickTime movies and walk-throughs of anything you design.

Start Building!

When it comes to 2D design programs there's no question as to which product will get the job done: MacDraft. While CADintosh has a couple of use-

ful features, it doesn't have nearly the collection of features that MacDraft does, and it's not nearly as capable. In the realm of 3D programs, it's obvious that all three of the professional level programs are capable of handling nearly anything you can throw at them. But the truth of the matter is, they provide

far more horsepower than is probably necessary for the average home user building a shed in the backyard. And ArchiCAD is too expensive for the home user. If you're a professional that needs a powerful design tool, or a

hobbyist that can't live without the best, any of the others will more than suit your purposes. Microspot Interiors is useful in a limited environment. Because of its limited drawing tools, it can't stand up to the rigors of any type of extensive drawing project.

So what then is a home user with a penchant for design to do? Get out our *MacHome* CD and take DesignWorkshop Lite for a spin. Or head over to Deneba's Website and try out DenebaCAD. Within a matter of hours you'll easily discern whether to invest in a more full-featured version of DesignWorkshop, or whether you feel like casting your lot with DenebaCAD. But no matter which product you choose, your project's guaranteed to be a hit before you cut a single board. **III**

CADintosh



\$29, Lemke Software
+49 5171 72200 (Germany)
www.lemkesoft.com



Excellent dimension tool, all commands are customizable



Difficult user interface

MacDraft



\$229, Microspot
561-395-9996
www.microspot.com



The best 2D drafting tools available



Somewhat expensive considering that it's only 2D

Interiors



\$69, Microspot
561-395-9996
www.microspot.com



Very good, simple 3D room layout program



Very limited drawing tools, limited libraries

DesignWorkshop Lite



Free (Expanded version \$10, CD version \$20), Artifice, Inc.
800-203-8324 www.artifice.com



Incredible price, excellent 3D modeling, relatively easy to use



None significant

DesignWorkshop Classic



\$80 download, \$100 boxed, shipped; Artifice, Inc.,
800-203-8324
www.artifice.com



Excellent 3D modeling, relatively easy to use



None significant

DesignWorkshop Professional



\$499, Artifice, Inc.
800-203-8324
www.artifice.com



Excellent 3D modeling, relatively easy to use, free High-res rendering



None significant

DenebaCAD



\$575, Deneba
305-596-5644
www.deneba.com



Excellent features, easy-to-use, powerful



None significant

ArchiCAD



\$4,295, Graphisoft
800-344-3468
www.graphisoft.com

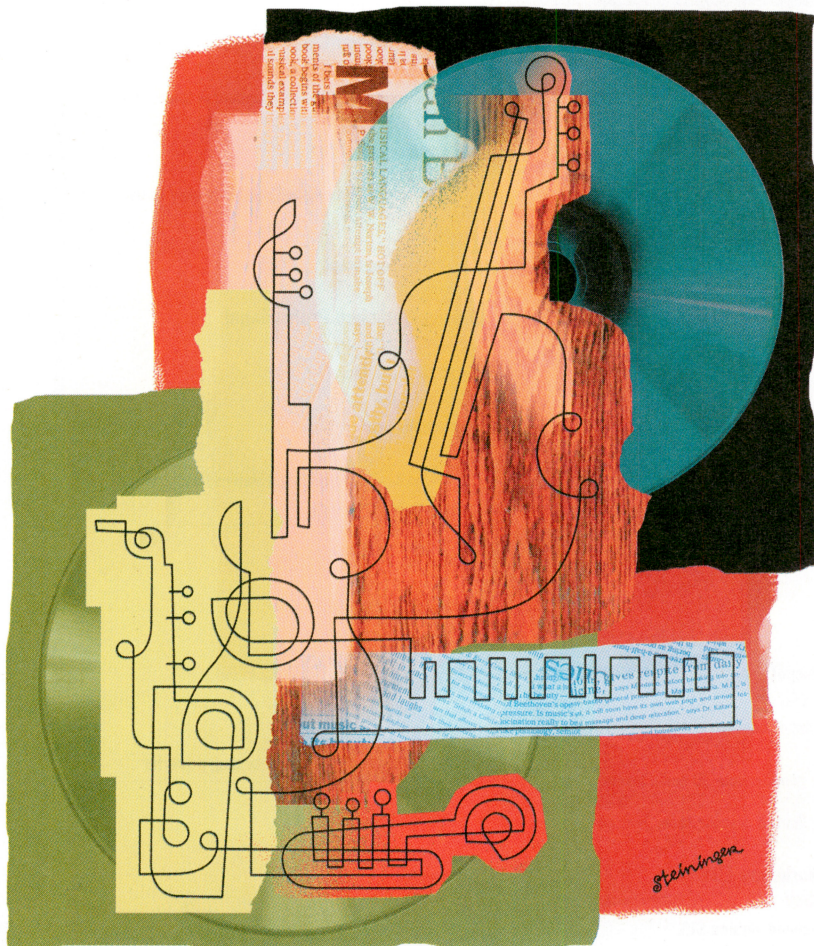


Great roof tool, clear, easy interface, amazing drawing capabilities



Extreme learning curve, very expensive

with your **Mac**



Want to be a musician, or just act like one? Your Mac is a great place to start.

If you only use your Mac to surf the Net, send some eMail, and view the occasional picture, you're a little like a violinist who uses only two fingers. That is to say, you could do much more with your Mac. Like making music, for example.

The Mac has long been a favorite tool of the music-making crowd because from very early on, good, intuitive software was available for music. That trend continues today. Many folks use their Macs as the centerpiece of a MIDI (Musical Instrument Digital Interface) studio setup. MIDI is a way of creating music by sending messages among a computer and devices that make sound — it's a language of sorts that tells the sound-making devices exactly which notes of the musical scale to sound at what time, how long each note should last, and what instrument sound should be used.

By John Poultney

A MIDI file, therefore, is a group of instructions for playing a song — they're sometimes called MIDI sequences, which is a holdover from the early days of the technology when MIDI instruments only had enough memory to play back a couple hundred notes, which isn't very many in the scheme of things. You can make your own MIDI

files, or download one from the Net (www.audioworks.com is a good place to find some). They can be anything from simple, one-instrument, single-voice melodies to complex orchestral scores. Modern versions of Apple's QuickTime can play back most MIDI files, and you can create them on your Mac using software called a MIDI sequencer.

Without getting too technical, MIDI sequencers work with a timeline that is subdivided into tiny, precise intervals. You enter the notes you want to play using a connected keyboard or other MIDI instrument, or you can drag notes directly onto the timeline to construct a sequence. It's an extremely versatile system and one that has been constantly improving over the years; modern MIDI systems can sound very authentic. A nice plus is that most any Mac can handle MIDI files; the processors in these computers aren't exactly taxed to the limit with MIDI, like they can be with video applications that require vast amounts of data manipulation.

MIDI, as we mentioned, involves triggering sounds to play at precise intervals, and these sounds are typically stored as samples, or brief recordings, of an instrument playing (sometimes they're electronic representations of the instrument instead of recordings, but the technology works the same). When a MIDI sequencer program tells a sound-making device (often called a MIDI module; a small box that hooks up to your Mac via an interface) to make a sound, the device finds the sound in its memory and plays it for the duration indicated by the sequencer. If the sound is a short one, like a snare drum, the sound is over quickly, but if it's a longer sound like a flute or a bassoon, it can sound indefinitely as it's looped.

The Setup

MIDI programs can be a little confusing, but look at it this way: All musical instruments follow the same rules of producing notes in sequence to produce music, but the techniques to produce the notes vary from one instrument to another. Violin obviously requires a different method than trumpet. You'll find it's the same with MIDI software. Some, like Metro by Cakewalk (www.cakewalk.com) are

extremely versatile but can be tough for novices to get a handle on. Another example in this category is Logic, by eMagic (www.emagic.de/english/). Even if they get fancy, adding all kinds of bells and whistles, MIDI packages all work in the same basic manner. For this article we'll look at using FreeStyle 2, a good \$199 package from Mark of the Unicorn (www.motu.com). A demo is available for download at the company's Website.

FreeStyle's installation is automated; you'll be prompted to double-click on the installer icon to get the software onto your disk. When you run the program the first time things get a little tiny bit more complex, you'll be asked to define your setup, or studio.

Don't panic. You don't need to have a separate room set up as a studio to do MIDI. It can all take place within your computer, or perhaps with a couple of boxes and cables hooked up to it. A studio is defined by a MIDI program as

in the case of older, pre-iMac models, the serial port (that's the modem or printer port). From there, you use a 5-pin MIDI cable to connect the interface to a MIDI module, which is where the sounds are stored. You can also add a MIDI keyboard or other instrument to control the sounds, but that's not absolutely necessary — you can enter a lot of notes just by using your computer's mouse and keyboard, even if you can't play it like a regular piano keyboard.

The MIDI module and keyboard are plugged back into the MIDI interface with another MIDI cable. The cable that connects the MIDI interface to your Mac serves to send data back and forth between the computer and the other MIDI gear. A MIDI setup can be very simple, involving just one interface and one module, or it can be very complex, including several modules and multiple instruments.

MIDI setups work via chan-

You don't need to have a separate room set up to do MIDI. It can all take place within your Computer.

the software and connected devices used to produce sound, and how they are connected.

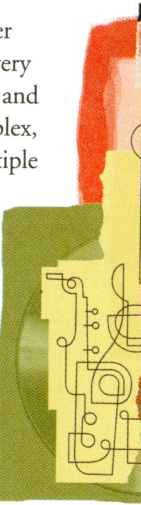
Most MIDI packages, including FreeStyle, will prompt you to automatically set up your studio by searching your system for software and outboard devices. They will also give you the option of using QuickTime instead of outboard hardware — this is a very convenient setup and one that many users will probably opt for, as it makes life much simpler. This arrangement will make use of a system extension called QuickTime Musical Instruments, and though it doesn't give you the great sound quality of external devices, it still works quite well.

If you use external hardware you will require several things. First is a MIDI interface (available from Mark of the Unicorn or Opcode (www.opcode.com) and other vendors, and ranging from about \$70 to several hundred dollars), which connects to a Mac's USB port, or

nels, each of which can be assigned to separate functions or devices, or ganged together so that the signals are assigned only to one device. Don't concern yourself too much with this at this stage — all you need to know is that if you really get ambitious you can do a lot with MIDI, by creating a large and elaborate setup that encompasses many keyboards, drum machines, sound modules and synthesizers. Or you can just use QuickTime and do everything internally. For these examples we'll go with the latter setup.

Here's How

Let's do a quick walk-through of the process of making a song on your Mac using FreeStyle. Once you've got the program installed, start it up and choose New from the File menu. FreeStyle will ask what type of ensemble you'd like; you can choose from big band, jazz group, latin ensemble, and more. Let's go with the



Once you get familiar with the technology you'll find that MIDI programs can duplicate many of the nuances found in precise music.

rock group for now. You'll see a blank section with numbers atop it indicating musical measures. It'll be called Section A but you can rename it to whatever you'd like, such as "verse one." Go ahead and rename it if you like by choosing Rename Section from the Song menu.

Next, set up the song so you can record music into it. Choose Toggle Record Loop from the Record menu and you'll see two markers appear among the numbers at the top of the screen. They'll automatically go to a four-measure section, though you can adjust them if you like. Whatever you record in the measures between the Record Loop can be made to repeat as many times as you like, or just play once through. You can set a tempo if you like, and play along with a metronome like you'd do if you were playing a piano, or tell the system to sense the tempo you're playing.

Now you're ready to add some notes. Take a look at the small window to the left of the main one; it lists which instruments are in the ensemble. Click the small red button to the left of an instrument and you're ready to record that instrument's part. Once you click it, look above to another small window called Control Palette and you'll see some familiar-looking transport controls, like the kind you'd see when using a tape deck. Click the record button, and anything you play (either on a connected MIDI keyboard or by using your mouse to click notes on an onscreen keyboard located to the left of the main window) will immediately sound and appear on the screen.

If you're using the Auto Loop function, your Mac will start repeating the notes you've entered after you've completed four measures, or however many you've set the loop for. Now you can decide whether to keep that track or redo it (you can redo individual notes, too, if

you've made any mistakes). If you like it, just record-enable another instrument and do the part for that one. In other words, say you've done a bass track — now you can add a trumpet or keyboard track on top of that one. Keep doing this till you're satisfied with this section, then it's time for a new one.

To add a new section choose New Section from the Song menu, and name it whatever you like, such as Verse 2, Chorus, or Bridge. Repeat the process you've just done.

Putting it all together

The parts you've recorded can now be made into an actual song. Simply choose New Song from the Song menu, enter the name of your little ditty, and you'll see a small window listing the parts you've already recorded, designated by some lowercase letters. Now your job is to arrange them along a timeline so that the verses, choruses, bridges, and whatever else you've come up with makes a cohesive song. You'll do this by dragging the parts that are listed to the left over to the timeline in the order you like.

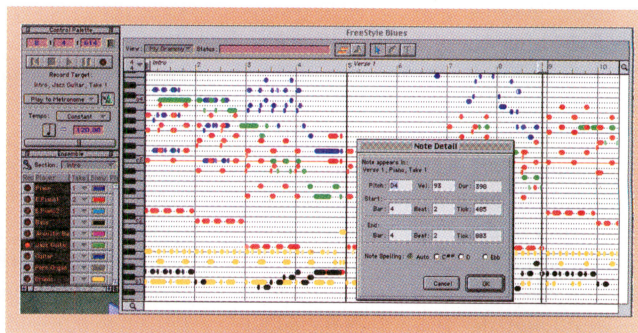
You can also just type a sequence with the letters assigned to each part. So if you've got parts a, b, and c, just type "aabbcab" and the segments will be arranged that way on the timeline.

Once you have a song arranged, FreeStyle allows you to enter notes directly atop it, which is nice if you have an idea how the structure and chords might go, but not the melody. Enter your melody and you'll be on your way to campfire sing-along land.

Advanced things

This article shows only the basics of MIDI. There's a lot more you can do than just a simple arrangement like we've shown here. Once you get familiar with the technology you'll find that MIDI programs can duplicate many of the nuances found in very precise music. Further, some of the external sound-generating equipment on the market today produces extremely lifelike instrumental sounds (check out the product listings at www.harmonycentral.com). It can be difficult to tell the difference sometimes between an actual band and a well-recorded MIDI file generated on a computer. Except, of course, for things like vocals.

Which brings us to another point. Some MIDI packages include the ability to record sound atop MIDI files! So, if you've arranged a song the way we've described here, all you'll have to do is get out the microphone and sing your clever lyrics, and voila! You have an actual song



FreeStyle, by Mark of the Unicorn, is a versatile and low-cost MIDI sequencing program that is applicable to beginners and advanced users alike.

with words. This requires a lot of horsepower, so many older Macs just aren't up to the task. Newer G3-based models like the iMac are plenty powerful, however. Very powerful chips like the faster G3s and G4s can support many audio tracks simultaneously, and will even let you mix the tracks, adjusting volume, adding effects like echo, and adjusting the bass and treble.

Music on the Mac is definitely worth checking out. Like a guitar, it's an easy instrument to get started on, yet can definitely grow with you as your abilities blossom. **MU**

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Digital Nomad

A Mac Guru on Making It, Virtual Reality, and the Travel Biz

It takes vision to start your own business. It helps if that vision is far-reaching, but if it's three-dimensional, encompasses 360 degrees, and includes virtual reality video complete with sound, zoom, and motion, why, the business is the boring part.

Part of being a guru, a free agent, or a work-at-home warrior is incorporating passion into what you do, and doing it from the sanctity of your own home. For Dan Crane, a world-traveling, self-employed entrepreneur, the home office includes the whole world.

Crane, 32, is the founder of Revolution Multimedia (www.Revolution360.com). A former employee of both Apple and Microsoft (the Mac side), an on-again, off-again contractor for the free-agency resource site Guru.com, and an avid photographer, Crane developed Revolution360 as a way to integrate his two strongest passions: panoramic photography and globe-trotting.

The concept: Crane takes a panoramic photo (actually, a series of photos, carefully calibrated so they'll all match up when overlapped into a panoramic) of, say, Bright Angel Point at the Grand Canyon in Arizona. He then takes the resulting series of photos, digitally developed onto CD, and "stitches" them together into a QuickTime VR — a virtual reality movie in which the photograph revolves around a central point, providing you with a 360-degree view of the object or natural setting.

The end product is a stunning look at a bit of scenery, architecture, or even a

stationary object. These, Crane deposits on his Website for the enjoyment of all — tribute to his art and his love of travel. But it's business, too.

"I have always enjoyed photography and traveling but I felt like I was doing too much work in between that," he says from his sunny apartment in Oakland. His office is down the hall, in a cozy den with two couches, a relatively new G4, an old Performa 6400, 300MHz that contains the Avid Cinema video production setup he uses for video work, a pre-G3 PowerBook 3400, and assorted camera equipment. We've just returned from a neighborhood coffee shop, and he sips chai tea as a black cat wanders in and out of the room. "I thought instead of all that being a vacation, the vacation should be my job."

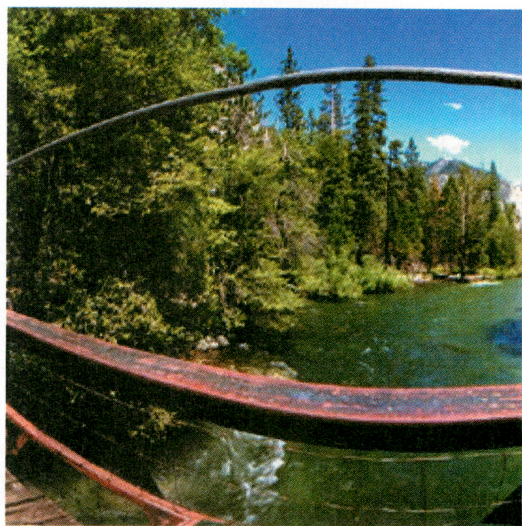
A graduate of California's San Jose State University, Crane says he pieced together a multimedia degree from radio, television, film, and electronic music production. He says he never planned to use his degree to become involved "in that whole television media thing," but did plan all along to turn his interest in photography toward video.

Opportunity All Around

The hobby became a business development model during the summer of

1997, after Crane was laid off from Apple during the leanest of times at the home of Macintosh. He'd gotten a contractor gig there out of college in 1995, and was offered a full-time job about a year later. He says he was hesitant to take it — Crane is one of those rare free agents who's always known he wanted to be a guru when he grew up.

The resulting layoff — with its severance pay package — left him with the summer off and the means to travel



across the country, checking out the scenery, so to speak.

"I always wanted to drive around the country and see the sights," he says.

So he did. Crane visited national parks across the country, from Idaho, Wyoming, California, and Arizona, all the way to the East Coast, while teaching himself the tricky art of QuickTime VR photography.

He shot 100 rolls of film in a month, between 10 and 16 shots per panoramic

series. It cost about \$300 to get them all developed — the last of his cash, he says — and once he got them all scanned, stitched together and digitally compiled, he found himself without the HTML skills he needed to get them online. Enter the Microsoft job, just in the nick of time.

While working a contract job doing quality control on the development of Internet Explorer 5 for Macintosh, Crane picked up the HTML skills he needed for his Website, and he was off to the virtual reality races.

"I just wanted to get it out there," he says.

He started building the site slowly, adding movies and basic text. He left Microsoft in 1998 and traveled to Europe for a solar eclipse, and then to Thailand, gathering more content for the site. Crane now has more than 100 panoramas, at least 75 of them online. He's been approached by tourism offices and product managers who want their stuff to appear in 360-degrees, and he's adding content like history, mythology, and edu-

he needed to beat a path to free agency.

"I want it to educate people, be beautiful and artistic, and pay off well enough so that I'm a not-starving artist," he jokes.

The artist remains, however. Crane talks passionately of giving his time and his art away if it has educational value, and he jokes that business-school grads would roll their eyes at his plan. But even the artist is practical. The fact is, Crane is making his dream happen — and it's not been that difficult.

The Art of Art

The perfectly timed jobs haven't been the only opportune developments for Crane on the road to going SOHO. The technology has nearly outpaced him, making virtual reality a viable business model, rather than something out of a science fiction novel.

He's begun to integrate Java into the VR movies, so visitors to the site no longer have to download QuickTime simply to view them. He's integrated sound into the movies — sound in

(www.panoscan.com), which actually pivots on a central point, digitally capturing a panoramic image, and automatically adjusting exposure to create a smoothly integrated video rather than a series of potentially flawed photographs. Since the inception of the business, he's been simply using a Canon Elan 2 and a tripod to take a series of stills.

Meanwhile, he uses a suite of software such as Photo Shop, Adobe Image Ready, Macromedia FireWorks, the Apple QuickTime VR authoring studio, PhotoVista, Reality Studio, and the BBEdit text editor for the HTML he does by hand. It's easy to get lost in the technology, but Crane says it's all in the hope of reproducing the simple art of nature.

Panoramic photography has been around for nearly as long as photography itself — about 100 years — Crane says. But it's the virtual reality aspect that makes it come alive. The viewer can't help but think of the immersive possibilities. Visit the Grand Canyon without leaving your computer.



Under a footbridge in King's Canyon National Park. This photo shows how a 360-degree picture is distorted as a two-dimensional image.

cational links to the site all the time.

"We're in the beginning stages of actually being a viable company," he says. "It's definitely evolved from a hobby to a real business."

Not surprisingly, the impetus to work for himself was already there, but another opportune contract job, at Guru.com (www.guru.com), gave him both the startup mentality and the information

stereo, so that in a natural setting, "if the river is on your left, the sound is on your left, and if you turn to the right, the sound shifts to the right," he says. His photos are now developed onto CD rather than as prints, and digital camera technology is made just for Crane's brand of business.

He has his eyes, he says, on leasing a \$30,000 Panoscan camera

Physically impaired? Climb Mount Shasta virtually, complete with sound, sight, and vertigo. Can't afford a ticket to Thailand? See it online.

Crane says he wants to make sure he combines education and history with the images, and he hopes the art isn't lost in the business plan.

"If I just do this as a hobby for the rest of my life, I'll be happy," he says.

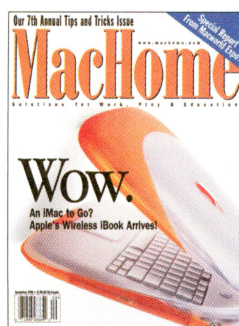
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Dan Crane, a SOHO entrepreneur, combines travel and panoramic photography with work. Here, he sets up a camera 12,000 feet up Mount Shasta.

"But I really don't see that happening. There's a lot of demand for this, and there are very few people who do it well."

Wine From Water

At press time, much of the groundwork was laid for Revolution Multimedia. Crane had partners out gathering content, as well as writer friends researching and writing about his subjects and their historic content.

The Revolution360 Website was changing almost daily as he added content, revisions, panoramas, educational factoids. Crane plans a CD-ROM of national park panoramas and imagines panoramic prints, coffee mugs, posters, even wine labels. Even his business cards are about five inches long and wrap around like a coffee cup sleeve to form a circular panoramic of one of four scenic vistas.

There's no denying the value of virtual reality as content for the Web, and Crane sees tourism — one of the strongest industries in the country — as his budding business' biggest market.

"So you can see not just the Taj Mahal, but what's around, above, and behind the Taj Mahal," he says.

Eventually, Crane says, he hopes to shoot panoramas for tourism bureaus, travel agencies, even the National Park Service. National parks are his passion — a teacher in him comes out when he talks about integrating education and scenery — and he dreams of a traveling office with a team of panoramic photographers sending digital updates on their journeys across America. He talks of just having "emailed India" about making VR movies for the national tourism bureau.

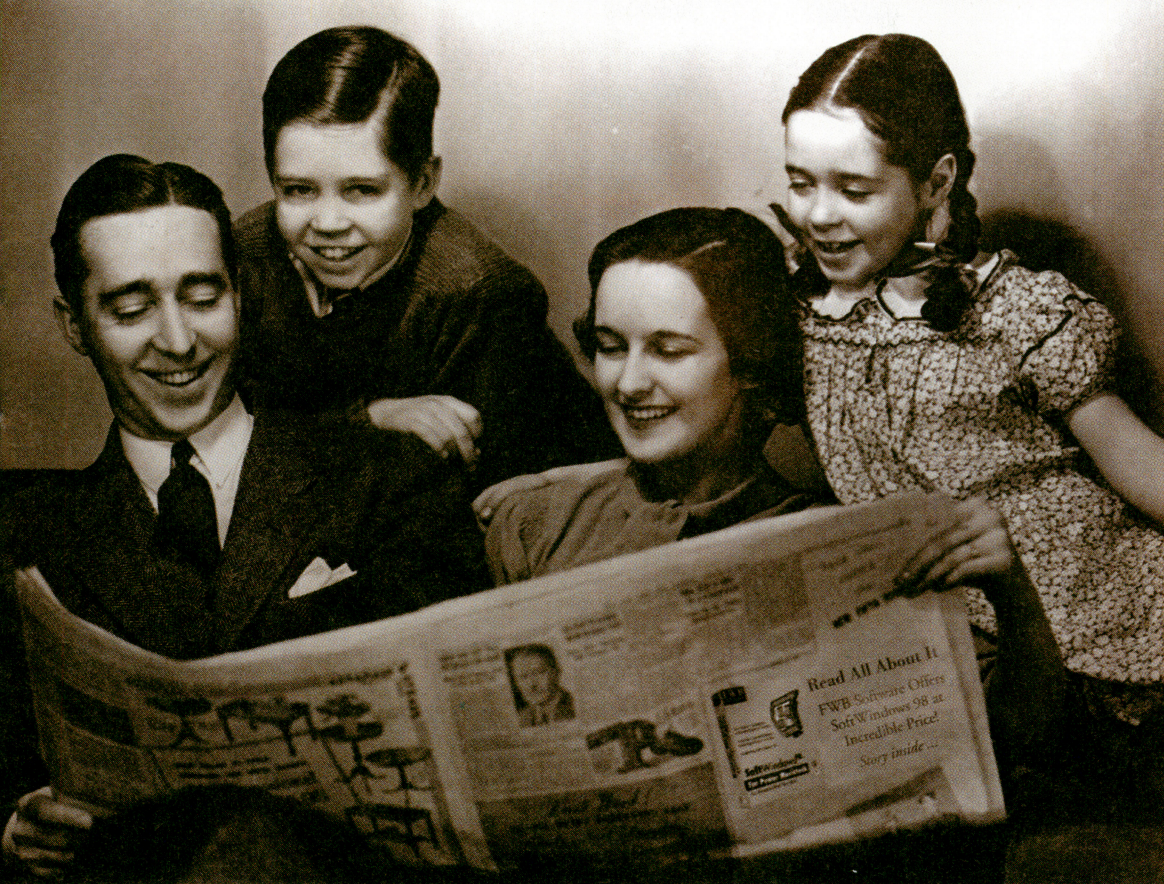
Mostly, though, Crane says his ultimate goal was just to wander, and to "go shoot pictures with my friends."

"I like to think my office is my Ford Explorer," he says. "I want to take the portable and do the 'digital nomad' thing, with teams of us gathering content."

Eventually, he says, he'd like to get to a point with digital photography where pictures are uploaded and then stitched together on the server side by, essentially, software robots.

"That's the ultimate goal, to be able to do it daily," he says. "There's always somewhere that I would like to go, so I might as well take my camera and let other people see it." 

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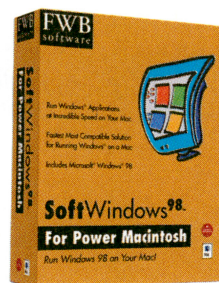
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FWB
software

Art Madness!

Print Explosion Vs. Print House

You've got an iMac and a color printer, and now — watch out world — all you want to do is go completely print-crazy. You want to cover the fridge with posters, flood the postal service with greeting cards, award friends and neighbors with home-made certificates, and festoon the hallways with custom banners.

Don't worry. With a desktop publishing program, you can do all of this and more, without investing hours of training or spending more than \$70.

There are many such programs to choose from, but we're going to focus on two — Nova Development's Print

Explosion, and Corel's Print House. They both come with a huge collection of royalty-free images, a large variety of example

projects, and software that allows you to manipulate the visual elements of your design. They also provide hundreds of fancy whimsical fonts with which you can spice up your documents.

Ker-Pow!

Print Explosion comes with 50,000 pieces of clip art, 1,200 photos, 1,000 "fine art" images (which are basically clip art pieces with a less generic, standard look), and

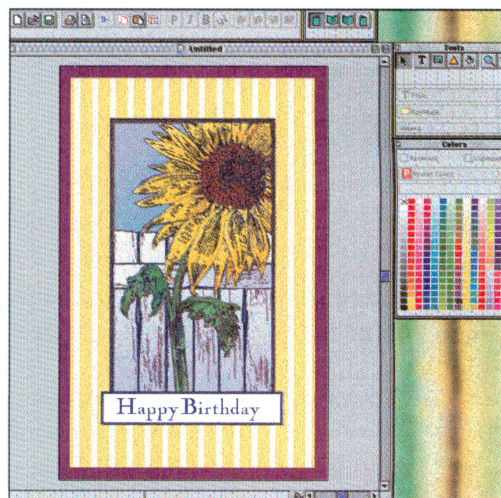
500 fonts. All of this comes on one disk, and unfortunately, when you install the program, it places the entire collection of resources right onto your hard disk — all 253MB of it, which is a lot of space. True, it saves you the hassle of putting in the CD every time you need an image, but it would be nice if there was the option. Thankfully, the program does give you the option of holding off on the fonts, rather than just slamming your System Folder with hundreds of new fonts without asking you first.

When you start up Print Explosion, you'll see a menu that displays 12 different kinds of projects. If you see a design you like, just hit Finish, and then click on any of the elements to change them, and make them your own.

You can also start from scratch, working without a template. Bring your own images in from your hard disk or use a scanner to add some text and to embellish your project with a little clip art, and away you go.

Print Explosion has got some funky

text presets that combine size, color, shadow, and other style considerations to give your letters a slick, designed look. Or you can style the text yourself, choosing from menus for size, font, and the like, as well as an endlessly various Effects menu for text that spins, glows, shines like ice, and other exotic feats. It's also easy to put text into any shape of box, and you can rotate it in any direction just by dragging on a handle.



Print Explosion provides you with a standard palette of graphic design tools.

Print Explosion provides nice Apple-Guide Tutorial help, which walks you step-by-step through the completion of common tasks, and it's got a large beefy manual so you can easily see what all of the clip art looks like.

Conspicuously missing from Print Explosion is the ability to import text,

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MacHome reviews
in our searchable
reviews archive.

or handle multiple column formats. Essentially, this means it's unable to handle newsletters, magazines, or other such documents with complex text blocks.

Is There a Printer in the House?

Print House, the more expensive of the two, comes with more in the way of images — 60,000 pieces of clip art, 20,000 photos, 300 fonts, as well as hundreds of frames, cut-outs, and backdrops. It comes on five CDs, and in contrast to Print Explosion, it only puts 68MB on your hard disk.

As with Print Explosion, Print House opens with a list of projects, such as greeting cards, banners, and calendars. After you choose what you want to make, the program walks you through the process of creating your piece by presenting you with step-by-step instructions along the left side of the screen.

Print House has many features that Print Explosion lacks. Unlike Print Explosion, you can import text into Print House, and you can format your text in multiple columns, so you can put together your own newsletter or magazine. And Print House also offers an interactive spell checker, similar to the one in Microsoft Word — if it doesn't understand what you write, it will highlight the word in question with a red squiggly line.

Print House also allows you to publish your creations on the Web. It converts all of your text to graphics, however, so you won't want to use it to put together a site that you plan to update often, if ever. But this is a great feature for those who just want to slap a party invitation on the Web with a very minimal amount of effort, and zero coding.

Print House comes with a second program, Photo House, which allows you to manipulate photographs and run them through a whole palette of special effects, such as turning your photo into a painting, adding a realistic cloth texture to it, and creating a spotlight. The beauty of this simple program is that it accepts Photoshop-compatible plug-ins.

Photoshop is the de facto choice for working with digital images, and there are a whole slew of special effects that work within the program as plug-ins, which are all available to this humble

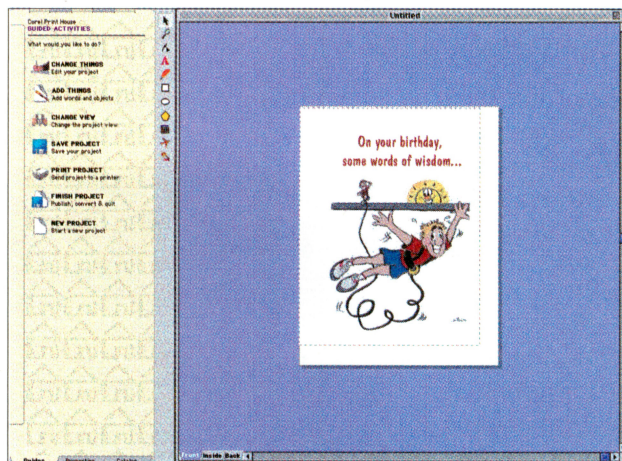
addition that's bundled with Print House. The program even has an Optimize for Internet option, which slims down your files and readies them for the Web or sending over email.

Print House provides you with a symbol sprayer tool, which is pretty cool — but by some unhappy oversight, its default symbol is the Windows logo — ouch.

The program has a “guided” interface — whatever you do on the right side of the screen, the workspace, affects a menu on the left, which summarizes your activity and alters the tool choices accordingly. When you begin, it's called “Add things,” and after you've added something, be it text or a graphic, the menu changes to “Change Things.”

I found this delightfully down-home nomenclature to be heartening, at first, but after getting into the program and playing around a bit, I soon got quite lost, and found that the interface has a few confusing aspects that are buried beneath the surface. To arrange your text into a shape, such as a star, you have to navigate to a Wrapper menu, and when you do, you have to click on a button called Presets, the only button there is. Then, none of the preset wrappers have any effect because the default setting is for “bitmap,” (image), and you have text selected. Then, in the settings, you have to choose between “paragraph” and “text,” and after experimenting, you realize that “text” means one line, and “paragraph” means more than one line, but it's hard to distinguish the difference between the two choices. Then, finally the text is in a wrapper, and it's affected by it, but you can't see the wrapper or select it.

Also, as far as elaborate text formatting, Print House pretty much leaves you on your own. There are presets, which combine font and color to create each setting, but there are no quick and easy text effects for blending, morphing, and adding trails.



Print House walks you through each step of the process.

The Final Decision

This is a tough one. At first glance, Print House seems the clear winner — Web publishing, the ability to import text and create columns, five CDs, and Photo House. How can you possibly beat that? Well, if you don't want to dabble with the Web or experiment with the special effects provided by Photo House, then go with Print Explosion. It has a more sensible interface because it uses a whole lot less talk and you don't have to go hunting for simple tasks. Also, the huge variety and the immediacy of Print Explosion's text effects will help you add some serious spice to your creations. **MII**

rating ★★★★★

Print Explosion

\$50, Nova Development
818-591-9600
www.novadevelopment.com

👍 Inexpensive; cool, powerful text effects, nice online help, nice beefy manual

👎 No Web component, takes up a lot of disk space, only one CD, limited layout tools

rating ★★★★★

Print House 2000

\$69, Corel
800-772-6735
www.corel.com

👍 Comes with five CDs, has Web-publishing capability, comes with separate, Photoshop-compatible image editor, has interactive spell check, symbol sprayer

👎 Interface requires a lot of mouse clicks, some simple commands hard to find

OneClick 2.0

OneClick, WestCode Software's excellent macro creation application, has been missing in action since the release of Mac OS 8.5 and, unfortunately, it was still in beta when we did our macro face-off back in October. Now it's back, and ready to make its appearance.

What's a macro? It makes your computing experience easier by several steps into a single-button click or a keyboard command. There's no program that does it better than OneClick.

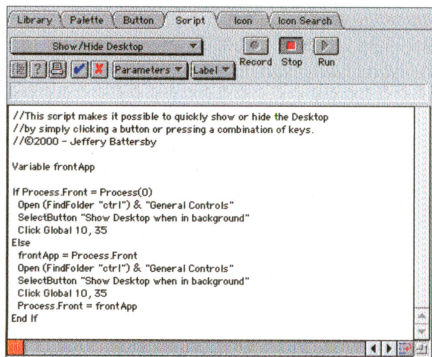
The program ships with an amazing set of ready-made shortcuts that you can use without ever needing to create a single macro of your own. The System Bar provides a complete set of system tools including a calendar, auto-save function

(which is great for programs like AppleWorks that don't have their own auto-save features), and program launcher. There's also a Finder Palette that

allows you to make aliases, add aliases to the Apple Menu, get info on files and folders, and empty the trash. If you want to create your own macros, OneClick provides two excellent options.

The first is a

macro recorder that watches your every move and then creates a new macro based on what you've just done. But if you want even more control over your macros, you can use the OneClick Editor to create just about anything you can imagine. The OneClick Editor is a script editor that allows you to make use of OneClick's 200+ command scripting language — essentially a mini-program-



ming language that allows you to control virtually anything on your Mac. While learning to use OneClick's scripting language requires some extra effort, what you'll discover is that it provides such versatility and power that you can actually create mini-applications using OneClick.

The Final Decision OneClick 2.0 is, hands-down, the best available macro tool you'll find for the Mac. It combines the best features of both KeyQuencer and QuickKeys into one absolutely stellar program.

— Jeff Battersby

rating ★★★★★

\$60 Electronic Download, \$80 Shipped; WestCode Software
 800-448-4250
www.westcodesoft.com

Excellent user and programming interfaces; ships with several useful, free macros with many more available at the WestCode Website

None

Palm IIIc Connected Organizer

Palm Connected Organizers are stealthy, hand-held computers that you manipulate with a stylus. They connect to your Mac via a docking cradle to synch up schedules, contact lists, and other files, as well as to download games, utilities, and other programs from the Net. The IIIc is the new Palm in town, and the "c" — will wonders never cease — stands for color.

Color opens up vast possibilities for these tiny computers. Using Album to Go, one of its bundled applications, you can convert any digital picture on your Mac to the Palm format and copy it to the Palm, the better to share your digital images with friends, neighbors, and fellow bus-riders. And photos look surprisingly good because the screen is bright and clear. Soon, many developers are sure to be creating color applications for the Palm. Kodak, for one, is producing a snap-on lens that turns the IIIc's screen into a viewfinder — there-

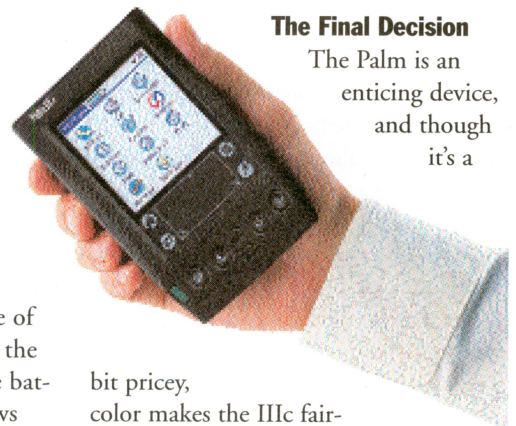
by turning the Palm into a digital camera. And the possibilities are virtually endless.

The improved screen also greatly improves the readability of monochrome applications that were created before the IIIc was released; text just about leaps from the screen.

But color isn't the only difference of the IIIc. Unlike the other Palms in the III series, the IIIc uses rechargeable batteries like those of the V. This allows the IIIc to charge up while it's sitting in the cradle synching to the Mac.

The Palm provides 8MB of storage, which is plenty — it's twice that of the \$229 IIIx. By Palm's estimates, it can hold about 10,000 addresses, 3,000 To Do items, 3,000 notes, and still have a lot of leftover space for dozens of extra applications, games, and utilities.

The only downside to the IIIc is that it's a touch taller than the others in the III series, which means it won't fit into some peripherals, notably the Minstrel wireless modem.



The Final Decision

The Palm is an enticing device, and though it's a

bit pricey, color makes the IIIc fairly irresistible. It provides a clear, sharp, and easy to read image.

— David Weiss

rating ★★★★★

\$449, Palm Inc.
 800-881-7256
www.palm.com
\$40 USB Kit required for modern Macs
\$15 cable required for serial Macs

Has bright, easy-to-read, high-resolution color screen, charges in the cradle

Expensive, a bit taller than the rest of the III series so it won't fit in some peripherals

SyncMaster 900SL

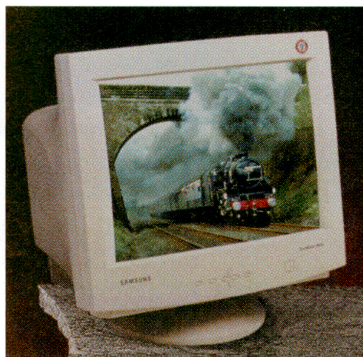
It is hard not to notice that the Samsung SyncMaster 900SL, a 19" color monitor, is a fine piece of work. The second I fired it up, the display looked sharp, clean, and crisp with nary a flicker. I was especially impressed by the sharpness with which it displays text. The SyncMaster sports a sleek and graceful design with a decorative blue stripe across the top. As a short-neck monitor, it's designed to take up less room than a traditional display of comparable screen size.

This monitor lets you adjust some very sophisticated settings so you can tailor it to your work and the lighting in your room. While its controls are not exactly intuitive, they can be deciphered without the manual if you care to spend the time.

There is, however, a significant downside to this monitor — the lack of Macintosh documentation — which leads to serious usability problems. Because the monitor is built with the

standard PC 15-pin D-sub connector, it may not be compatible with the video connector on the back of your Mac. Moreover, it is deceptive because the signal cable appears to fit your video port perfectly. It's likely that you'll need the MacMaster II adapter for the monitor to work properly. The problem is that nowhere in the literature does it indicate that Mac users need this adapter, nor does an adapter currently ship with the monitor. The only clue you get is when you call tech support. The good part is that the adapter is free upon request.

Moreover, at resolutions of 1,024 x 768 with refresh rates of 72Hz, 75Hz, and 100Hz, I found the colors somewhat flat. The colors appeared fairly washed out even after adjusting them



with the onscreen controls, and applying Sonnetech's Colorific True Color Matching software, which matches the colors to those of your printer.

The Final Decision

If you're looking for a reasonably priced 19" display for desktop publishing,

Web design, or other uses, then go for the SyncMaster 900SL. Just be aware that your colors may not look as rich and vibrant as perhaps they really are. And be sure to ask for the adapter.

— Jackie Dove

rating



\$399, Samsung

800-726-7864

www.samsungmonitor.com



Crisp, clear display; excellent text display, quite a good price

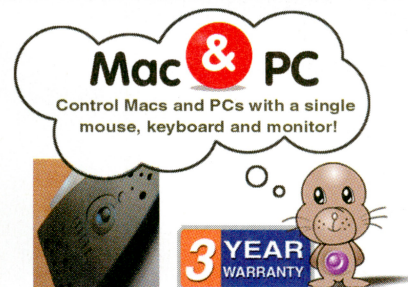


Clunky adjustment interface, no Mac hardware support, colors slightly flat



For more information, email: sales@iogear.com or call our toll-free number: (888) 999-2836. Customers outside the U.S. can contact us at (949) 250-1260. Web-site: www.iogear.com/machome

MiniView™ USB KVM CONNECTIVITY



Introducing three milestones in our quest to bring Macs and PCs together - the ADB & USB KVM switches. While our Dual Platform MiniView (G-CS12DP) is perfect for older Mac configurations, our two and four-port USB KVM switches allow four USB devices and a monitor to be shared among two or four computers. And because these switches are USB-based, Macs, PCs and any other USB-compatible systems can share the same peripherals. Visit us on the web at www.iogear.com/machome to see how we can put these revolutionary new switches to work for you.



VideoFX

Ever notice how famous authors sometimes write under pseudonyms? Like Stephen King did as Richard Bachman? Well, Global Village's VideoFX, a USB-based video capture device with attendant software, is essentially Richard Bachman to Dazzle Multimedia's Stephen King, or, Dazzle Digital Photo Maker.

Confused? Well, we reviewed Dazzle's product back in the March issue, and found it serviceable though not very impressive. VideoFX is really the same product but with a better manual and slightly different software bundle. This package, except for the inclusion of a limited edition of



ArcSoft's PhotoMontage, is the same as Dazzle. And its list price is \$30 higher.

Is there \$30 more value in the Global Village product? Most likely. Aside from the PhotoMontage software (reviewed in last month's issue), you get a better manual, and the promise of Mac-focused technical support

(Global's been making Mac stuff for years).

Functionally, however, there is no real difference between the two —

your video hooks up to the box, the box goes to your computer via USB, and a rudimentary application lets you do basic edits or capture still frames from the video. The box accepts S-video or composite input; like the Dazzle box, I could only get composite video to work, and the video-capture window shows through

any open application while in use.

The quality you'll get from VideoFX is good; the unit digitizes at 320 x 240 pixel resolution. An odd little story-board-style application is included for editing — it works okay, but it's a little difficult to grok at first because its icons are rather vague and cryptic.

The Final Decision

VideoFX is okay, but not outstanding by a long stretch. We still think you'll get a better value with XLR8's \$99 InterView, which provides similar functionality but includes better software.

— John Poultney

rating

\$129, Global Village,
800-336-2009
www.globalvillage.com
USB Required

Simple, functional

Some bugs, software not very versatile

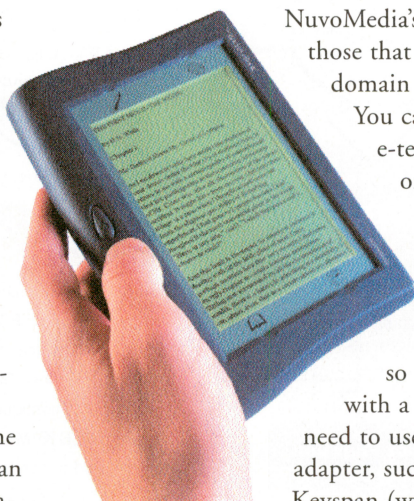
Rocket eBook

If you're the sort that likes to carry around a bushel of books with you wherever you go, then you're probably also the sort with a sore neck.

But with NuvoMedia's Rocket eBook, you can carry more than 10 books around with you, all in the same hand-held volume.

The back of the eBook is curved, giving it a nice snug feel, and it's got two buttons for paging forward or backward, within easy reach of the thumb. Because you can adjust the page orientation, it can accommodate righties and lefties.

It comes with 16MB of storage space, which can hold about 18,000 pages of text, according to NuvoMedia's estimates. Indeed, I've got six books stored on it now, and I've



only used up about 5MB. It comes loaded with a dictionary, a Rocket eBook user guide, and a copy of Lewis Carroll's *Alice's Adventures in Wonderland*.

From there, you can download hundreds of eTexts from NuvoMedia's Website, and all those that are in the public domain are free of charge.

You can also purchase new e-texts from various online booksellers.

To connect to your Mac, it uses a cradle that's connected to a serial cable, so in order to use it with a USB Mac, you'll need to use a serial-to-USB adapter, such as one from Keyspan (www.keyspan.com), which costs around \$50. A simple program that you run from the Mac mediates between the Web and your eBook. But this program must be present in order to copy books over to the eBook. You can't download a book on one computer, put it on a disk, and

bring it over to another computer.

The Rocket eBook offers many functions that make it more than just a turner of electronic pages. You can look up selected words in the dictionary, mark your spot so you can easily return to it later, and even jot down annotations to the text by means of a primitive keyboard that you operate with a stylus. It runs on rechargeable batteries, and it quickly charges while it's in the cradle.

The Final Decision The Rocket eBook is handy, small, and full of thoughtful features. It's an excellent way to take a small library with you wherever you go.

— David Weiss

rating

\$269, NuvoMedia, Inc.
650-314-1200
www.nuvmmedia.com

Stores many books, full-featured, rechargeable, comes with snazzy case

Can't add other applications, must use its software to download new titles, requires adapter for USB

RAM Doubler 9

The latest version of Connectix's RAM Doubler fixes just about the only gripe we've had with it through its last two incarnations, and with RAM costing about as much as gold at press time, you can't live without this program.

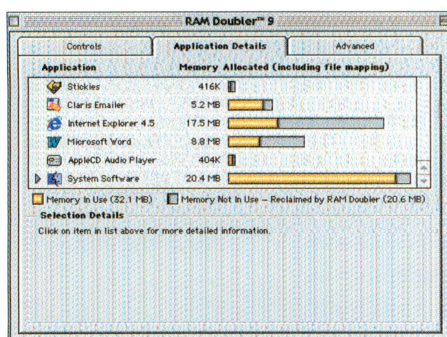
For those of you unfamiliar with this wondrous little application, RAM Doubler is a program that makes your Mac think it has up to triple the amount of installed RAM — up to 256MB. Even better, it does so without sapping your hard disk space and slowing your system down. Meanwhile, your computer thinks you have all this extra memory, and you can open applications galore, without fear of slowing or crashing.

Sure enough, I increased my memory from 80MB to 160MB, and later tripled it to 240MB with no hint of drag on

my hard drive. I also was able to run several large programs simultaneously without any problems.

The application installs in a flash, with a manual that is easy to install and

use, and takes a minimum of upkeep. RAM Doubler is accessible from the Control Panel in the Apple menu, and has a series of three panels that allow you to adjust the amount of RAM you're using and to check up on



how much memory your open applications are consuming.

An advanced options panel allows you to configure the way the application runs — such as hiding applications you're not working in or keeping the system running on physical RAM. This panel also allows you to monitor whether your RAM setting is starting to sap the hard disk. As a last resort in its memory-increase process, RAM Doubler

will use a process called "paging" to use your hard disk as RAM. If too much paging occurs, the application will affect performance, and you'll need to lower your memory settings.

The previous version of RAM Doubler didn't alert you if too much paging was occurring — you had to bring up the Control Panel to check. The updated version, however, lets you enable a Paging Indicator so that when paging happens, a small blinking light will appear in the upper-left corner of the screen so you can fix the problem.

The Final Decision RAM Doubler is a must-have, especially in these days of high-priced memory.

— Molly Wood

rating

\$49, Connectix
 800-950-5880
www.connectix.com

Doubles, even triples the amount of RAM on your computer; lets you open many programs simultaneously.

Not a one!

Buslink USB Hard Drive

In the multimedia age, we can all use a little extra disk space. And whether it's needed to store the QuickTime movies of those Dean Martin roasts, your

When I added the Buslink drive it just showed up on my desktop, formatted for the Mac and all, without my needing to restart. The manual says you may have to format the drive but that wasn't the case in my experience. Ah, the joys of plug-and-play.

The drive comes in a stylish brushed aluminum and translucent blue plastic case, but it's a tad large by portable standards, measuring 5.5" x 5.5" x 1.7" and including a very bulky AC adapter. However, its grooved case allows it to be stacked with other Buslink drives quite easily and securely.

Now USB is certainly convenient, but not known for speedy data transfer. In our tests, copying a collection of files ranging from 60K to 4.6MB took 19 seconds from the Mac to the Buslink, and about 10 seconds from the drive back to the Mac. On a SCSI disk connected to our test Mac, the transfer speeds were about twice as fast in both

directions, but that's to be expected — USB is about convenience, as we said. However, Buslink's drive provided adequate performance, even when playing back QuickTime movies in video and animation format.

The Final Decision Buslink's USB drive is a stylish unit that delivers acceptable performance, though it is a bit large. And at \$289, it's a little expensive for a drive of this capacity; Buslink makes other models based on a larger disk mechanism that offer more space for just a little more money.

— John Poultney

rating

\$289, Buslink
 626-336-1888
www.buslink.com

Pleasing to behold, stackable, decent performance

A little expensive, kinda big



burgeoning philately database, or even a specifications chart of various industrial casters, it's nice when the extra disk is easy to add to your system.

Buslink's USB disk, providing a handy 6GB of space, is a snap to add. Just plug it into your USB port, add the AC adapter plug, and you're ready to go.

4D 6.5 Standard Edition

4D, a.k.a 4th Dimension, is a powerful database design environment from ACI US

that rivals FileMaker Pro's ease-of-use and far outshines FileMaker's power. The program's latest iteration provides a plethora of new Web-savvy features in a product that is amazingly fast and versatile.

The 4D database design environment comes in two flavors: Standard, with which you can create and run any database from a Mac or PC, and Developer, which allows you to create stand-alone, cross-platform applications that anyone can run. That version is a bit pricey, at \$799, but schools can buy it for \$99. You begin your design by creating tables,

each consisting of a collection of fields such as First Name, Last Name, Address, City, and so forth. A collection of tables in 4D is referred to as a "structure."

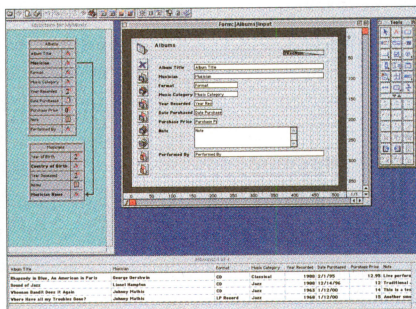
Once you've designed your tables, you can create relationships between each one simply by clicking-and-dragging from the related field in one table to the related field in the next. As you create each relationship they are visually displayed in the Structure window with an arrow pointing to each related field. The beauty of this type of design environment is that your entire database design is easy to comprehend visually, and every table is contained within a single file. Once your initial design is complete, you can easily create custom data-entry forms and reports.

The new version now includes an

image editor with which you can create custom icons for your database applications, for that personal touch. A newly redesigned wordprocessor makes it easier to compose scripts and customize your databases, and a fully functional Web server allows you to deliver your data to the Web with both static and dynamically created Web pages.

The Final Decision 4D is a great database program for both beginners and experts — it leaves every other competitor in the dust.

— Jeff Battersby



rating ★★★★★

\$349 (\$35 academic price), ACI US
800-881-3466
www.acius.com
PowerPC Required

Excellent visual design environment, fast data access, cross-platform

None

C-2020 Zoom

Digital or "filmless" cameras are getting increasingly sophisticated at emulating the functions of their silver halide brethren. Moreover, a new generation of consumer-oriented digital cameras is splitting the market between the weekend point-and-shooters and the professionals or skilled amateurs.

The Olympus C-2020 ZOOM, at \$899, is a serious camera targeted toward the latter group. It has a wide range of flexible controls that give you a wide range of options and pictorial results. The image quality of the C-2020 Zoom is awesome. The colors are rich and vibrant, and the detail is sharp.

The camera comes with several valuable features, such as a 3X optical zoom lens equivalent to a 35-105mm zoom on a traditional 35mm camera, and 2.11-megapixel resolution with millions of

colors, supporting images of up to 1,600 x 1,200 pixels. There are both manual and automatic settings for focus, white balance, and exposure, with options for spot metering and bracketing to further unleash your creativity. You can use the

automatic flash or attach an external flash, and shoot in black and white, color, or sepia. It comes with its own remote control. You can even use it to record a 60-second QuickTime movie. A 1.8" LCD lets you view your shots.

This camera is not for the faint of heart,

though. Before you embark on your first shoot, you will have to thoroughly review and commit to memory the many camera controls, and icons of the interface.

The C-2020 Zoom comes with rechargeable batteries and a recharger. An AC adapter would have been a great asset to this package, however. I also would have appreciated a carrying case, though a shoulder strap was included.



I was disappointed that the software package included the amateurish Adobe Photo Deluxe as its image editor. For a camera with such professional specifications, Photoshop LE would have been more appropriate. I also wish there was an automatic cover on the LCD panel, as there is no way to shoot through the viewfinder without smearing the LCD with your nose.

The Final Decision This camera is an outstanding shooter, but rather complex for a novice to operate. But a seasoned photographer making the transition from a 35mm SLR will be delighted.

— Jackie Dove

rating ★★★★★

\$899, Olympus
800-622-6372
www.olympusamerica.com

Outstanding images, wide range of manual and automatic controls, small size, comes with rechargeable batteries, 8MB SmartMedia card, and remote

Complex controls, no cover for the LCD screen, right-handed orientation, no AC adapter



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Strobe Pro

Visioneer's Strobe Pro is not your ordinary scanner. It's sneaky, and practically invisible. It sits in the seldom-used space behind your keyboard, underneath your monitor. Rest a document in its paper-feed slot and the Strobe draws it in, scans it, and presents it to you on the screen.

The Strobe has a very simple design. It's got one slot on the front, and one on the top, and when you feed in a piece of paper, it curls back toward you. You can also flip a lever to have the paper pass straight through, underneath your monitor, which is the setting you'd use for thicker paper such as card stock. It comes with a cardboard frame that you can temporarily affix standard-sized photos onto, which helps to keep your photos straight.

The Strobe's software comes into play as soon as the scanner senses a piece of paper. It allows you to sort your scans into various folders, or direct them into other programs for image-editing, word-processing, or email. The email function is a bit limited, however. It delivers scans in a format understood only by others with a Strobe.



The Strobe is best at scanning text. It can scan a page of double-spaced text, interpret it using OCR (optical character recognition) software, and place it in a Microsoft Word document, all in about 30 seconds. And recognition is stellar — it will only make one or two mistakes per page.

Unfortunately, the Strobe is less stellar when scanning photographs. Although the scanner can capture intricate details, colors are much too saturated, and the scanner created subtle artifacts, such as blue colors in white areas.

Aside from a Quick Start guide, there is no Mac-specific printed manual, and the online one omits a piece of crucial information: When you calibrate the scanner, you need to flip the lever to pass the paper straight through. Because of this, I improperly calibrated the scanner, and my initial attempts at OCR were abysmal, giving me the impression that the scanner didn't work at all.

The Final Decision Though its documentation is lacking, and though it doesn't do the best job with scanning photos, the Strobe Pro is still a slick, stealthy alternative for bridging the gap between the printed world and your Mac.

— David Weiss

rating 

\$200, Visioneer
888-229-4172
www.visioneer.com

 **Very sleek and small, easy to install, excellent text recognition, intuitive software**

 **Poor quality on photos, unclear documentation**

Freehand Luke

Freehand 9 Is Rolling in Cool Features **By** Chris McVeigh

Macromedia's Freehand 9 marks the next evolution in digital design. The latest edition of the popular illustration application rolls in usability enhancements that make two-dimensional design easier for both the novice and expert.

Keeping Perspective

Freehand 9's crowning achievement is its perspective grids. Until now, illustrators wishing to create realistic three-dimensional elements had to first draw their own grids on background layers, and then use these faux-grids as guides.

Freehand 9 eliminates this tedium in one fell swoop. The perspective tool creates three-dimensional grids with multiple vanishing points and allows any object to be bound to the grid walls. Select an object, hold the mouse button down and click one of the arrow keys (corresponding to the left, right, top, and bottom grid walls) to attach

the object to that grid. Once attached, slide the object anywhere along the grid, automatically adjusting its perspective as it is moved. The grid walls can also be repositioned simply by holding down the shift key, clicking on the desired grid wall and dragging it to a new location.

The Envelope, Please

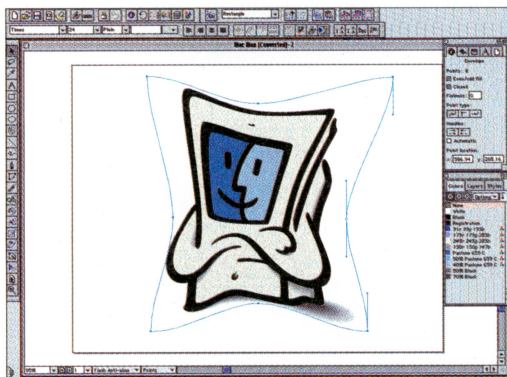
The intuitive Envelope tool answers the prayers of illustrators longing for a free-form distortion tool, handily outclassing the distortion tools found in CorelDraw8. Select an object, click a button, and then tug at a series of handles

to stretch the object in the direction of your choice. A pop-up menu allows you to choose from a series of predefined distortions, each of which can be further modified by pulling its control handles. Amazingly, text remains editable even after it has been distorted!

Suggestive Symbols

The symbol library is a delight for people who frequently use repeating graphic elements.

Perhaps you're working on a newsletter that contains your company logo on each page. Create the logo, toss it in the symbol library and then drag-and-drop that



library item onto each new page of the newsletter. Need to change the logo? No problem. Edit the logo on any page and changes can be applied to each instance of the logo throughout the document. Unfortunately, the symbol library is confined to a single document, and updating a logo in your newsletter will not carry over to a separate document containing your letterhead. Still, symbols can reduce the overall file size, which is especially important if you are creating material intended for the Web.

With the new version, documents can be exported as a Flash file for the Web,

with animations and hyperlinks.

Freehand 9 goes beyond the call of duty, allowing designers to export their illustrations and documents as multi-page PDFs that incorporate hyperlinks. Many designers will find this feature eliminates the need for Adobe's Acrobat Distiller package. Incredibly, Freehand 9 also allows the import of existing PDF documents, which can then be edited and saved in the Flash format.

The Extra Mile

Freehand plays catch-up to its peers with the addition of several key features, such as the ability to export multi-layer documents to Adobe Photoshop 5 and the option to preview the document in an anti-aliased mode (yielding soft, smoothly rendered edges instead of jagged ones). The anti-alias mode helps designers evaluate their work without having to export it to another application, such as the Flash Player.

The only notable oversight in Freehand 9 is the lack of an advanced gradient designer, like that found in Adobe Illustrator 8.

The Final Decision

Freehand 9 swiftly steals the torch from the competition with its clever perspective grids, detailed distortion options and multi-file format support. It's a tool no serious designer can go without. **||||**

rating ★★★★★

Freehand 9

\$399, Macromedia

800-470-7211

www.macromedia.com

👍 Remarkable perspective grids ease three-dimension drawing, envelope feature provides unparalleled distortion options

👎 No advanced gradient designer

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SUNBATHING.

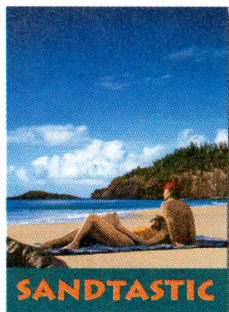
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YOU SEE
THE PEOPLE
ARE SAND
SCULPTURES.



YOU'VE GOT TO SEE IT IN

EPSON

COLOR.



It's true. The couple enjoying the sand is actually made from it. As are their clothes, glasses and book. Even the blanket they're lying on. It's all sand. Meticulously sculpted, painted and photographed to fool the eye. So when the artists who created this difficult illusion wanted to reproduce it for a brochure, there was only one printer they could trust with the job. An Epson. As you can see here, it captured not just the vibrant color of the setting but also the incredible detail in the sculptures. And turned what could have been a nightmare of a project into a day at the beach.

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Out of Line!

Golden Rules for Protecting Kids on the Net

You teach your kids proper manners, how to cross the street at the corner, not to talk to strangers, and to be kind to animals. Like all other lessons in life, good Internet habits are taught.

The Internet is a great place for kids. There are innumerable learning opportunities, games, and fun ways to connect with other children from all over the world. The Internet will also be an essential component of your children's future academic and professional careers. But many good things involve risk, and the Internet is one of them.

Think of the Internet as the outside world right in your own home. Just as the outside world can be dangerous for those who are too trusting and inquisitive, the Internet can be a minefield to kids, if you're not careful. A few common sense ground rules for both parents and children can keep the Internet a safe and fun place for families, helping them to avoid inappropriate Websites, harassing emails, stalkers, and privacy violations.

"The secret is to educate children and empower parents," says Parry Aftab, an Internet attorney and executive director of Cyberangels.org (www.cyberangels.org), a Website devoted to online safety. "Where the Internet is concerned, people think it's television, but it's not. It's actually the telephone. It talks back. People can find your house."

How does trouble typically start? Probably not with your children, but rather with unsolicited email or spam, much of which is X-rated. "The first

thing that parents are going to be aware of is the unsolicited email having to do with pornography and adult Websites," says Ruben Rodriguez, director of the Exploited Child Unit of the National Center for Missing and Exploited Children (www.missingkids.com), in

Porn, Violence, and Hate

They're everywhere in your children's real space — in the evening news, billboard advertisements, and movie marquee. While free speech laws in the U.S. protect Websites with such content, you don't want your kids looking at it.

You particularly don't want pornography Websites shoved in their faces just because they typed the name of a common body part into a search engine for a school project. How can you control what your child sees?

The National Center for Missing and



Alexandria, Virginia. "The parents wouldn't allow their children to look at this material on TV or in magazines. But now it is a hyperlink in an email."

Indeed, as your children log onto commercial online services such as America Online, bulletin boards, newsgroups, and the World Wide Web, your general areas of concern should include spam email that contains or links to objectionable content, pedophiles in chat rooms who pose as adolescents and try to lure your children into face-to-face encounters, and online registration forms that require personal information to participate in contests and games, or qualify for free stuff.

Exploited Children supports the use of site-filtering software that prevents objectionable Websites from appearing on your screen. Some filtering software packages can even block chat rooms where children can get tricked into meeting child molesters.

Says Rodriguez, "The most dangerous thing we see is the individual going online to solicit information to meet the child. A child will go into an Internet chat room for hobbies such as motorcars. Someone injects themselves into the conversation. They (the kids) don't realize it's a 50-year-old pedophile. These individuals are potential child

molesters and master seducers. He develops a relationship with this child. So the child trusts this person."

Software Filters

There is site-filtering software and site-blocking software, and some packages do both. Blocking software relies on a "bad site" list, whereas filtering software uses keyword formulas to block out objectionable Websites from reaching your computer screen.

Products such as SurfWatch (www.surfwatch.com) and CyberPatrol (www.cyberpatrol.com) let you tailor how much content to filter out, depending on your child's age and your specific areas of concern. Each package has its own database of blocked sites, compiled by people, as well as criteria and methodology for blocking sites. Each have free trial versions you can download and test. America Online has a popular parental control feature, while some filtering software even prevents your child from sharing personal information online.

Software filters can cover broad categories, and some packages let you trace the Websites your kids have visited. For example, SurfWatch filters drugs/alcohol/tobacco, gambling, hate speech, sexually explicit content, violence, and guns/weapons. It also features ChatBlock, designed for chat areas.

But filtering and blocking software is not perfect. Just filtering out the word "sex" can block out innocent sites that are not obscene but genuinely useful to young people. Then too, inappropriate sites can slip through even the best filters. There is no easy answer as to whether you should use a software filter to weed out sex, drugs, hate, weapons, gambling, alcohol and tobacco, and other content. If you choose to use filtering software, understand its limitations.

Parry Aftab, author of the book, *The Parent's Guide to Protecting Your Children in Cyberspace*, is not a big fan of Internet filters. "Filtering is like someone else

choosing the channel your kids can watch on TV or which books your kids can read. If you have the same value structure (as the filter), then it's okay."

Rodriquez urges parents to learn about such software and program it themselves. "Parents have access to parental control and email software programs that can filter out spam. But some parents aren't knowledgeable enough to understand how to program it. So they let the kids do it, and they're going to set it up in whatever way they want," he warns.

Age Old

The need to supervise children online varies among families and age groups. Obviously, your nine-year-old is going

to be a lot less sophisticated than your 14-year-old, so the amount of freedom will have to be adjusted. Ironically,



Online Safety Tips

The following are some general safety guidelines for interacting on the Internet, and should be tailored to your own family needs. Use your judgment and be involved in your child's online experience.

- Take the time to understand the Internet, and what it contains.
- Surf the Internet with your kids at various intervals.
- Observe who your children are chatting with and what they are talking about.
- If your kids chat online, make sure it's in a moderated chat room.
- Instruct your children to use a fun screen name instead of their real name when chatting.
- Consider keeping the computer in the family room rather than in your child's bedroom.
- Make sure your child understands never to reveal personal information about himself/herself (such as name, address, telephone number,

experts say teens are the most vulnerable age group as they are more apt to explore the Internet, participate in discussions, and seek companions online.

"We need to teach parents to address how to deal with strangers on the Internet," Aftab points out. "We don't let them (children) chat with strangers on the telephone, but we let them chat with strangers on the Internet. No one would let their kid talk to a wrong number for two hours. And that's essentially what Internet chat is. What can they say to strangers? We haven't given them the tools."

Who's Chatting?

Online chat is easy and fun and kids love it. But just as you monitor who your kids hang out with after school (you do, don't you?), it's also a good practice to find out who they're hanging around with online in chat rooms,

school name, Internet passwords, or photographs of themselves or their family to anyone online whom they don't personally know).

- Do not use the computer as a babysitter in lieu of interacting with your children.
- Screen email with younger children.
- Make it easy for your kids to come to you with problems they may have on the Internet such as harassing emails or disturbing Websites.
- Be aware of every file that your child downloads from the Internet and don't let them open any attachment whose sender they don't know.
- Use a software filter to limit your children to appropriate sites, or, better still, have your kids search the Internet via kid-centric search engines or "white lists."
- Check out a Website's privacy policy before allowing your child to register or give out information.
- Do not allow your child to meet online buddies unless you are present.

email, and Internet telephone. Websites that feature chat rooms monitored by adults, such as Freezone (www.freezone.com) and Headbone (www.headbone.com) are the safest for kids. But be sure to check monitoring schedules.

It's not too intrusive to drop in on your kids' chat sessions and check out who else is in the chat room and what they're talking about.



Kid-Centric No, no, no!

You can't see this, you can't do that, you can't go to this Website, you can't chat with that one because ... I said so. As a parent, you may rightly be concerned about Websites that promote sex, drugs, violence, hate, gambling, tobacco and alcohol use, and other things you disapprove of.

To prevent inappropriate Websites emerging from an innocent search, have your kids search the Internet through Kid-centric search engines that automatically filter out such sites, or that only present Websites that have been pre-approved for their content. Apply email filters to block spam.

So-called "white lists" of kid-friendly Websites give young people great variety without the censorship involved in filtering. KidSafe, the new Website from Apple.com, derives its sites from a database approved by teachers and librarians.

"Pre-approved sites will make a huge difference. They give kids lots of good stuff," says Parry Aftab of Cyberangels.org. "The white list is the future, and a major solution. The problem is trying to put together a white list that's big enough."

Often you'll spot a phony "kid" a lot faster than your nine-year-old, or even your 15-year-old.

Impress upon your child a healthy degree of skepticism and a critical attitude when evaluating people and information they find on the Internet. Never allow an unsupervised visit between your child and an unknown "Internet buddy."

Giving Away the Store

Nothing is more fun than winning free prizes, and taking online quizzes and surveys. But some online forms — especially those in which kids fill out information about themselves in order to participate in an activity or win something — can be an insidious method by which marketers gather information about you and your family.

A survey conducted by the Center for Media Education (www.cme.org), a children's media watchdog group in Washington D.C., found that 95% of randomly selected children's Websites collect personally identifiable information from children. A very small minority encouraged kids to get their parents' consent before filling out online forms.

Fortunately, a new law is taking effect to restrict information Websites can solicit from children. The Children's Online Privacy Protection Act, passed by Congress in 1998, goes into effect in April 2000. It applies to all commercial Websites in the U.S. that collect personally identifiable information from kids under the age of 13. Such Websites must now provide notice to, and obtain verifiable consent from, parents.

Unfortunately, the new law only applies to sites that specifically target kids under 13 years of age. Your teenagers are still fair game. Warn your kids never to fill out online forms without your permission, and observe the questions asked on forms to make sure

that they are not violating your privacy. Giving out your credit card number is strictly verboten, as is revealing a social security number or a password.

Surf Together

Nothing replaces a loving and caring family that does things together. And shuttling around cyberspace is a good place to start. "Where are most of the computers?" asks Rodriguez. "In the kids' room. Move the computer in the family room. The computer has become the babysitter, taking the place of the TV."

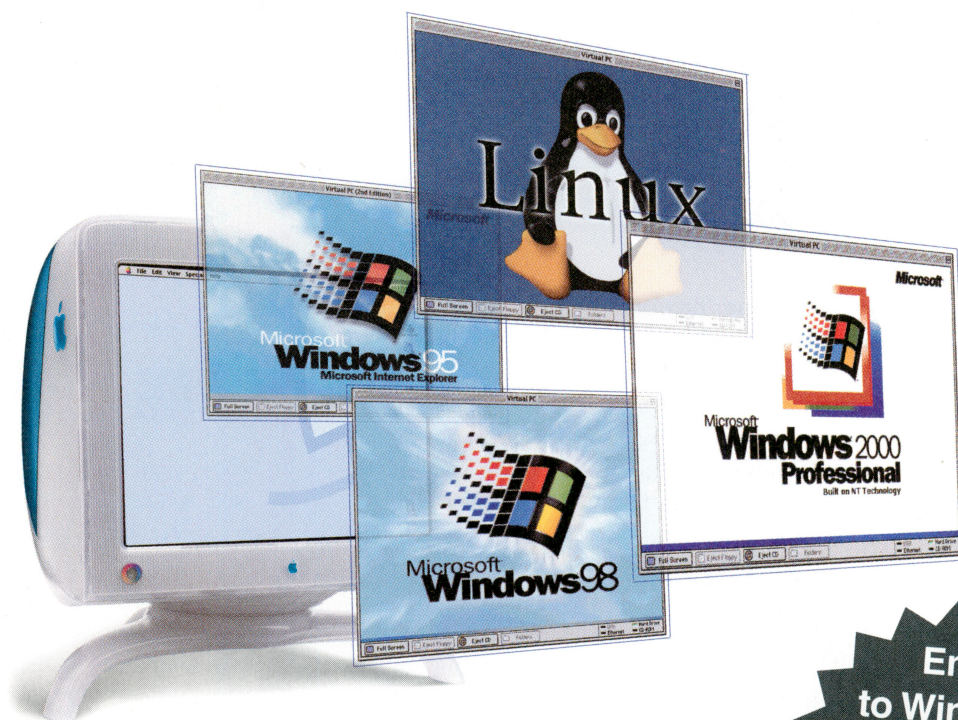
Whatever strategy you decide, don't give up on giving your kid access to the Internet. An atmosphere of trust in the home, combined with competent and efficient monitoring, goes a long way in protecting your family from offensive material online. Says Aftab, "The greatest risk to kids is being denied Internet access. They have to have it to stay ahead in school and in communication. If the kid is only allowed access to certain sites with filtering software, that's better than no access at all."

*The National Center for Missing and Exploited Children, www.missingkids.com
Cyberangels, www.cyberangels.org
Children's Partnership, www.childrenspartnership.org
SafeKids.com, www.safekids.com
Net-Mom, www.netmom.com **MHI***

White Lists of Kid-Safe Sites

KidSafe, www.apple.com
(Click on iTools using Mac OS 9)
Yahooligans, www.yahooligans.com
Ask Jeeves for Kids, www.ajkids.com
Bonus.com SuperSite for Kids, www.bonus.com
Surf Monkey, www.surfmonkey.com
HomeworkCentral, www.homework-central.com
StudyWeb, www.studyweb.com
American Library Association Cool Sites for Kids, www.ala.org/alsc/children_links.html
Cybermom's Approved Links, www.cyberangels.org/cybermoms/links.html

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What Breed of Dog Are You?

Personality Testing Website Tells All

Bookmarks received an email the other day containing a URL for a little 12-question online quiz entitled What Breed of Dog Are You? Though we at Bookmarks are cat people, we could not resist this test. Turns out we're a Bernese Mountain Dog (we'll reserve the details for our analyst).

What Breed of Dog Are You? is just one of some 55 personality quizzes of variable lengths and levels of gravity found at Emode.com, a self-test psychology Website featuring multiple-choice tests written by the Emode staff, some of whom have advanced degrees, even Ph.Ds, in psychology. The site features many breeds of standardized tests concentrating on relationships, careers, personality, and health.

Emode.com calls itself "the best coffee break ever," but that depends on how much coffee you're drinking. Personality tests, generally in the multiple-choice format, are answered by clicking a radio button, and range in time from 8 minutes to an hour. They can be lighthearted and fun or challenging and thought-provoking. We found some test questions to be interesting and sophisticated.

Our craving for instant gratification was satisfied in a matter of seconds, as tests were graded with instant and detailed analyses of our responses. The interface is clean and easy to follow, while the site has a pleasing, professional green, grey, and black color scheme. The navigation bars at the top and sides of the page let you scoot around easily. You can even store the results of your tests in a "vault" at Emode for future viewing, or comparing with friends and family, if that wags your tail.

We warn you now: You'll need time to take a significant number of these tests. Of course, since this was work-related research, we were justified in taking quite a number of these quizzes. Some tests are Ph.D certified, and many are distressingly accurate. Among the Ph.D certified tests are: Anxiety; Do You Feel for Others?; Optimist or Pessimist?; and IQ Test. Get ready for quizzes such as: Are You a Control Freak?; Are You A Flirt? (we'll never tell); What's Your Emotional Age (we'll never tell that, either); and Is Your Man Cheating On You? (Forget it!).

The Emode.com tests are free of charge, but the site strongly encourages you to register by throwing pop-up menus in your face every time you submit your test to the server for results. That got rather annoying after awhile. At times, we found some of the questions and the either/or categorical answers a bit disconcerting, but hey, let's not get too serious. Emode.com does not pretend to be a therapy or a serious self-help site: it's strictly about self-awareness, self-expression, and good clean fun. Emode, www.emode.com



Soul Searching

If you want to find out about the inner you, as well as the inner everyone else, be sure to stop by the Keirsey Temperament and Character Website. There you will find quizzes, scholarly analyses, and interesting psychological information about temperament types such as artisans, guardians, ratio-

Test your IQ, Personality or Entrepreneurial Skills on the Web

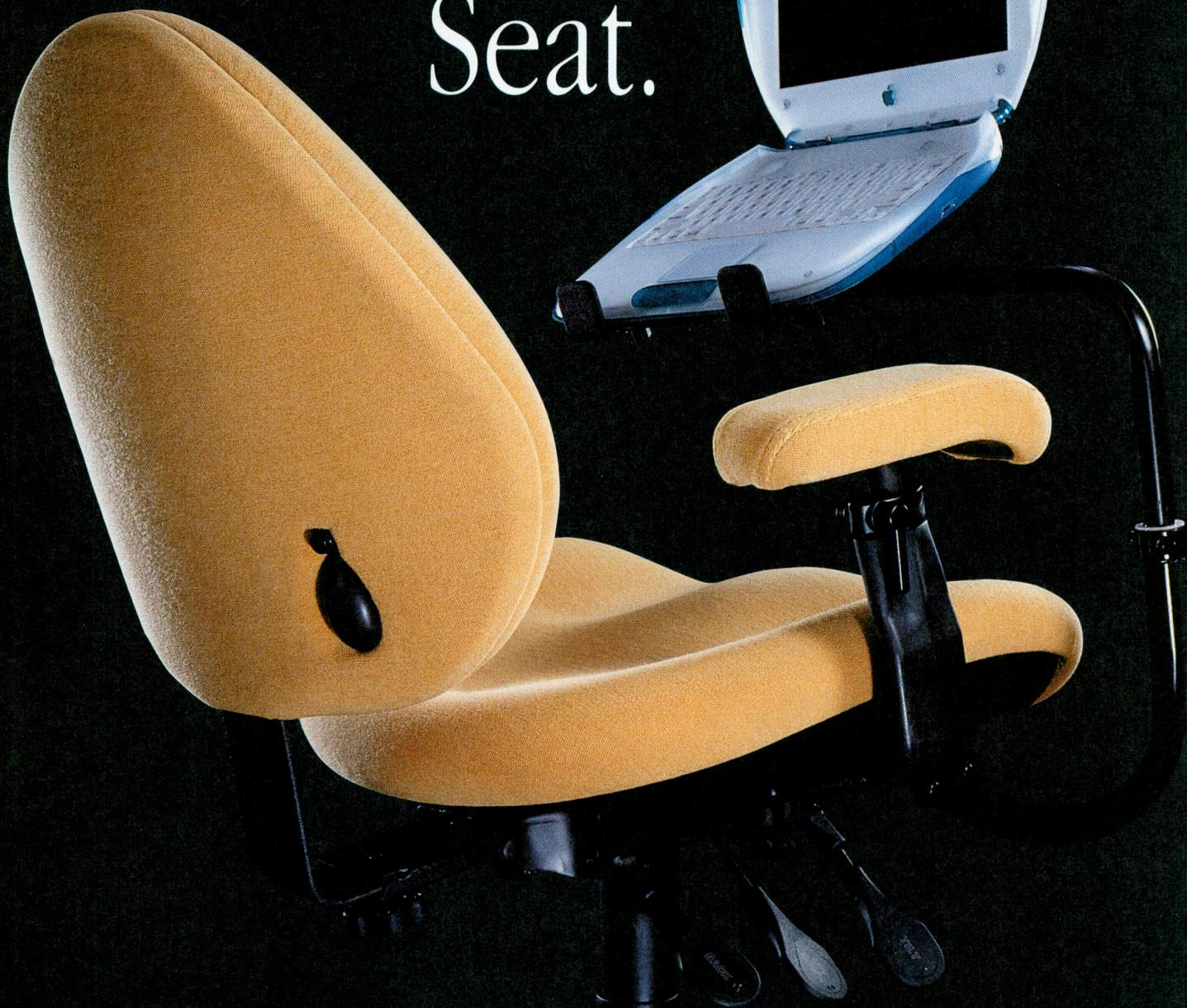


nals, and idealists. The site does not sport a fancy design, but is full of text-based links and images. Though vastly interesting and informative, it is not easy reading.

An overall clearinghouse for online personality tests can be found at the site entitled, Testing Your IQ, Personality or Entrepreneurial Skills on the Web. This site is divided into IQ tests, personality tests, entrepreneurial tests, and more. This site has a pleasant, upbeat look, and links you to such popular tests such as the Values and Lifestyles Psychographic Segmentation questionnaire (VALS).

If you're a real test junkie (and we are finding this stuff rather addictive) then you'll also like QueenDom.com, which bills itself as the "serious place for entertainment," offering personality, intelligence, and health-related tests and information, along with stories, advice, books, and more. Keirsey Temperament and Character Website, www.keirsey.com Test Your IQ Personality, www.2h.com QueenDom.com, www.queendom.com

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BODYBILT

From Space To The Workplace

Last month, we looked at savvy online shopping. This month, we're recognizing an important part of living well: tunes, baby! Tunes! We've put together a collection of some of the best sites at which to stock up your CD collection, and we're not talking about illegally downloaded MP3s. Some of us are still doing it the old-fashioned way.

CD Universe

Maybe the best site we found. CD Universe is a must-go if you want to build your collection at reasonable prices, as they offer 40% off top-selling CDs as well as reasonable rates on older stuff. CD Universe has a remarkable collec-



tion, and a search for a particular person or band will yield what amounts to their entire musical history, as well as albums on which they may have been featured! In addition, CD Universe recommends similar artists and helpfully provides links to their albums. Impressive, indeed. There is also the ubiquitous music news, a must on any good music site, plus links to hear snippets of songs and albums.

www.cduuniverse.com

CD Now

This site finds CDs, CDs, and noth-

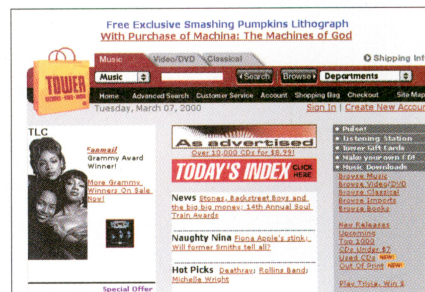


ing but CDs — well, and news, too. Find music of all genres as well as comedy, spoken word, children's stuff, and music news and interviews to rival *Rolling Stone*. Plus, CD Now offers 30% off new releases, so you can get the brand-new faves for cheap. CD Now boasts an extensive collection, great sales, and fast shipping. Woo hoo! Now that's shopping! www.cdnw.com

Mass Music

A site that bills itself as being strictly for audiophiles. Mass Music offers imported and hard-to-find music, including new releases and DVDs. Its site design could use some work, but it's a great outlet for some of that obscure ska you've been trying to find. It's got an impressive collection of some pretty unheard-of stuff, to be sure, and it has great prices to boot. Some of Mass Music's stuff is available only on tape, or even perhaps vinyl, for a truly vintage feel. This one's a winner.

www.massmusic.com

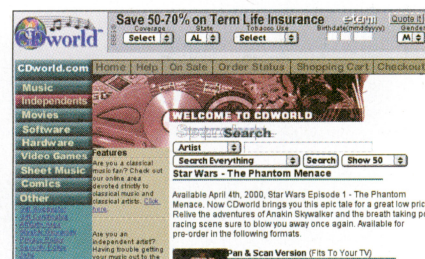


Tower Records

Not just a store, a virtual store! Tower Records online boasts its customary wide selection of music ideas, including new releases and old favorites. You'll also find news and reviews, as well as free daily downloads. Tower's site gets bonus points for its listening station, where you can download bits of songs from albums you're feeling hesitant to run out and purchase. Also, for the thrifty shopper, Tower also has great sales. www.towerrecords.com

CD World

A more diversified site than its name might suggest, CD World boasts music, with a separate category for independents, which puts it right up near the top of our list. It also boasts movies, software, hardware, video games, sheet music, comics, and



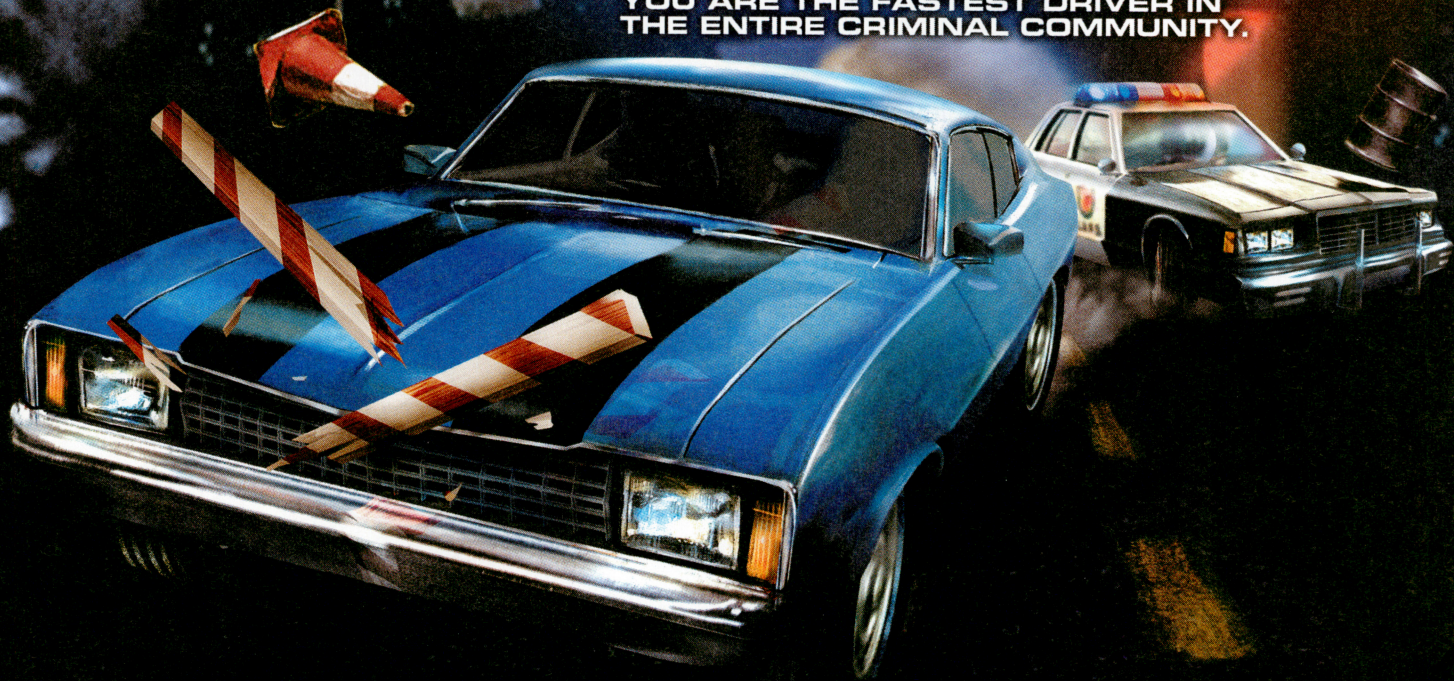
the always intriguing "other." This site shares an extensive selection of in-stock items, including imports and publications. CD World bills itself as a discount entertainment site, so you will probably end up doing quite a bit more shopping than you intended once you get there! www.cdworld.com

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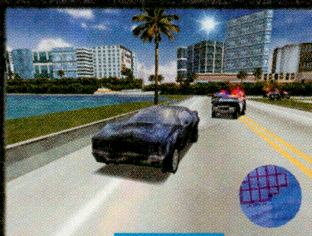
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Online Music Lessons

Hum and Strum Along, Internet-Style

What family doesn't enjoy a nice campfire sing-along of "Happy Trails?" Or perhaps a rousing rendition of Stephen Foster's timeless "Linger In Blissful Repose" at the upright grand? None that we could find.

And rightly so, because music, aside from taming the savage breast, is pretty much universally acknowledged to be good for the soul and pleasing to the ear.

But you know that much. What you may not know is that the Internet harbors a surprisingly large number of sites specializing in music lessons. While these sites are most likely not substitutes for the real thing — that of sitting in a small room with an expert to critique every movement of your fingertips along with your embouchure — they do serve a useful purpose. And the Net's celebrated capacity for multimedia is well-suited for music lessons, since modern sites not only provide you with visual tutorials — standard illustrations and photos like you'd find in books — but also with animation, video, and sound in many cases.

While some might claim that many sites overuse multimedia, especially sound where it's not needed, music-education sites definitely benefit from it. When sites make judicious use of multimedia elements you'll see and hear how to play an instrument.

Let's begin. A-one, and a-two:

Piano on the Net

www.artdsm.com/piano

This site has beginning, intermediate, and advanced piano lessons, along with

helpful graphics and QuickTime sound files that you can start, stop, or loop as you like. The site's author, a professional music teacher since 1973, has also included some original compositions designed to help students understand various types of music.

Music Teacher Search:

www.musicstaff.com

Musicstaff is a free service that represents over 6,000 music teachers across the country. You can search by instrument, skill level, location, and teacher name, and find information about various "music camps" by picking out your state from a map. A handy site indeed, as it lists teachers for all kinds of instruments, from mandolin to harmonica. Just enter your Zip code and specify how far away you expect your teacher to reside. Sorry, Canadians — this site's just for the U.S.

The Online Guitar Community

www.wholenote.com

Guitar is a great instrument because beginners can get a decent sound without much effort, it can be very versatile

in the hands of an expert. WholeNote gives you plenty of fingering exercises as well as instrumental passages from well-known guitarists. The site provides simple diagrams that represent chords, fingerings, and tablature (a method of portraying guitar passages with a timeline and finger/fret numbers rather than with standard notation). That may seem a little primitive compared to using high-resolution photographs, but the examples defi-

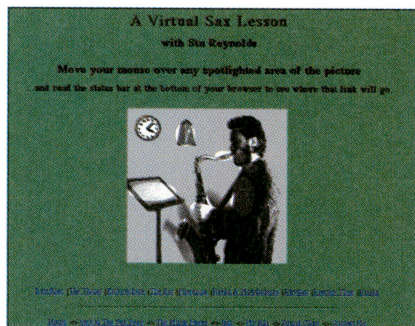
The screenshot shows the 'The Art Department' website interface for a guitar lesson. At the top, it says 'the art of music - > Focus on the Net' and 'home'. Below that, it says 'LESSON EIGHT, ADVANCED STUDIES'. The main content area is titled 'Basic I, IU, U Chord Set' and 'A Chord Set is called a "Progression"'. It displays three staves of music with chords I, IU, and U. Below the staves, it says 'Each stroke represents 1 beat (there are 4 beats shown in this measure)'. At the bottom, there is a slider bar with the text 'Push "play" on the slider bar below to hear this set being played.' and a 'student note pad' icon.

nately work. The site has links to songs in OLGA (the On-Line Guitar Archive), a controversial conglomeration of songs and chords that has existed on the Web in one form or another for quite some time (sometimes on university sites, sometimes privately). OLGA has occasionally been shut down because of copyright concerns, but resurfaces just as often. Get out your axe and start learning — maybe someday your name will be in lights.

Sax and Violence!

www.jps.net/bflat7/lesson.html

Well, no violence actually, but plenty of sax lessons! Saxophonist Stu Reynolds offers some pretty detailed lessons on



this page, dealing with fingerings, embouchure, breathing techniques, and the like. There's even a section detailing recommended books for those that wish to delve deeply. Some sound files exist on this site but they're not associated with the lessons.

International Lyrics Server

www.lyrics.ch/index.htm

You like to sing, but can't recall if the words go "eyes without a face," or "how's about a date?" Your friends aren't much help. Where to turn? To the International Lyrics Server, of course. You can search for song lyrics by keyword, artist, album, or song. Not a bad idea, but do try to narrow your search so you don't get too many results. My search for the lyrics "hey baby" returned over 1800 matches, while "cabbage" returned none. Yet I do know there is at least one song with "cabbage" in it — the bluegrass staple "Boil Them Cabbage Down."

Digital Drums

musiciansweb.8m.com/drums.html

Everyone's got a little drummer in them, don't you think? Who doesn't occasionally tap his or her foot, slap his or her knee, or clap his or her hands to a pleasing rhythm? That's right, no one. Well sir, if you're interested in knowing more about drumming rudiments, check this page for some well-crafted instruction. The site uses ASCII text to create diagrams and charts, instead of photos, drawings, or

animation, as one might expect in this digital age, but once you get used to the method you'll have no trouble following along.

Aloha Oe!

www.hawaiimusic.com/instruments.shtml

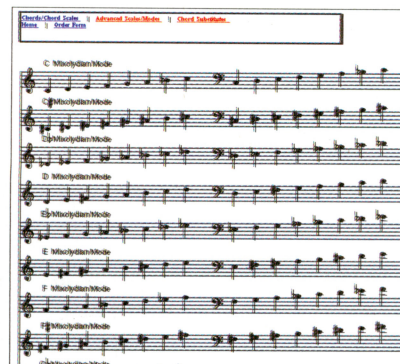
Who among us has visited the azure sands of Hawaii and not left with a ukelele ringing in his or her imagination? There's something that stays with you about Hawaiian music, that's for certain, and there's no point in trying to get around it. But you needn't go all the way to the islands to find out more about the music and the instruments that make it. This page has links to all types of sites specializing in various aspects of Hawaiiana, from ukelele to steel guitar. Being a uke fan myself, two of my favorite links from here are focused on that teensy four-string instrument.

The Online Ukelele Lesson is translated to English from Japanese, and has all the flavorful wording you'd



expect. It minces no words at the outset: "Hello. Let's play ukelele. The good point of ukelele is 'very easy.' Don't think about difficult things, let's play ukelele." Chapter 10 of the Online Ukelele Lesson gets right to the point, simply titled, "Go to Hawaii."

Also intriguing is the Ukelele Self-Instruction Manual from 1914 (www.snowcrest.net/motman/uke.html), lovingly scanned in by a uke enthusiast and applicable for its historical and musical content alike.



Them Changes

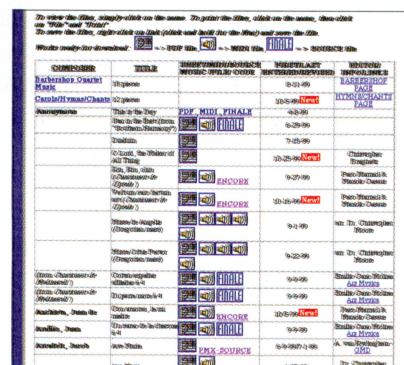
www.changes98.com

Why it's called Changes 98 we're not certain, but this site provides a valuable resource for musicians, especially those interested in jazz stylings. It tells you what scales go with what chords. Using standard music notation, you'll learn the basics and the not-so-basics of scales, modes, and chord substitutions. This page is a little esoteric if you're not familiar with music reading, but it's interesting nonetheless.

The Choral Music Archive

www.cpd.org

Choral music, designed for large vocal groups wearing robes, can be a moving experience. This site hasn't been updated for awhile but holds a good-sized repository of this music. The best part: many of the selections are available for download as Adobe Acrobat (PDF, or Portable Document Format) files, which will give you a good-quality printout of a notation-rich score, and MIDI



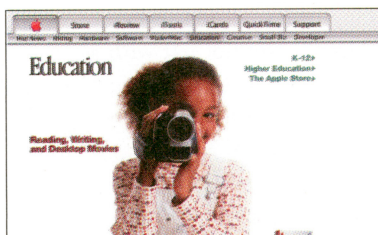
(Musical Instrument Digital Interface) format, so that you can play them right on your computer with the appropriate MIDI software. See Making Music with Your Mac, in this issue, for more on that topic. **MIDI**

An Apple For the Teachers

Apple keeps plugging away at educating our youth with a new line of Apple Learning Solutions designed for educators. The new suite of resources includes the Apple Learning Exchange, a Website resource; the Apple Learning Series, a collection of software applications and curriculum content; and Apple Learning Professional Development, online development courses for teachers.

Apple says the Learning Solutions program is aimed at helping educators meet state and federally mandated standards. The Learning Interchange Website features QuickTime video content to provide electronic field trips, technology demonstrations, and presentations. The software package includes nine new K-12 titles that were to be available in April.

www.apple.com



Reading For the Little Tykes

Humongous Entertainment has two new titles aimed at increasing reading comprehension, problem-solving, and critical thinking skills in the very young. The new CD-ROM collection, *World of Fun & Learning Kindergarten* and *World of Fun & Learning 1st Grade* combine, not surprisingly, cute characters and engaging activities to make your pups smarter. (See

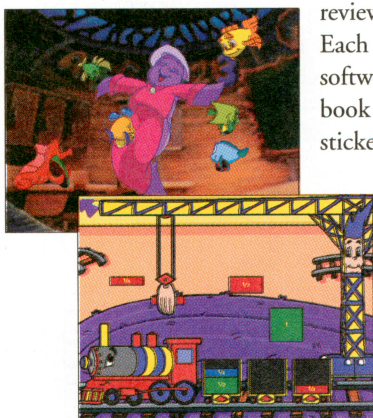
review, this issue.)

Each collection comes with two of Humongous' software titles as well as an adorable little notebook that contains learning exercises, collectible stickers, and coloring exercises.

In the kindergarten edition, follow Putt-Putt and Pep as they rescue the missing baby animals from the Cartown Zoo. The exercise teaches strategic thinking, sequencing, and memory skills with cute graphics and, well, baby animals. There is also the Big Thinkers! Kindergarten series that uses curriculum-based lessons such as letter identification, measurement and

estimation, and spelling. First-graders get to help Freddi Fish and Luther track down a toy-stealing schoolhouse ghost, learning logical thinking, deductive reasoning, and problem-solving in the process. After the game, there are more curriculum-based lessons in such important fundamentals as basic math and grammar, telling time, phonics, and more.

World of Fun & Learning series, \$20, Humongous Entertainment
www.humongous.com, 800-499-8386



Jack It Up

Now your kids can know Jack. Tom Snyder Productions has released *That's A Fact, Jack! Read*, a CD-ROM series that's actually an interactive game show. The set is aimed at engaging students in reviewing literature, and teachers can choose from 45 CD-ROMs that cover 450 commonly read books for children and young adults. The set is designed to supplement or be incorporated into an existing language arts curriculum, and its questions are designed to ensure reading comprehension, promote understanding, and develop critical thinking skills. There are individual and team games, and writing and discussion features as well.

That's A Fact, Jack! Read, \$60,
Tom Snyder Productions
www.tomsnyder.com

Working Together for a Porn-Free Internet!

The government is taking another crack at making the Internet a safe space for your offspring. At the request of the U.S. Congress, the National Research Council (the operating arm of the National Academies, which include the National Academy of Science, the National Academy of Engineering, and the Institute of Medicine) is kicking off a study to look at ways to protect children from pornography on the Internet.

The NRC kicked off its work in February, and plans a two-year project that would involve seven meetings in various locations, workshops with expert presenters, and a careful look at the political and social discussion about protecting children while they surf.

Officials hope the study will help soothe the often contentious nature of the local and national debate on the subject of Internet pornography. It will not, however, make specific policy recommendations.

For more news and information, see the Apple Learning Interchange website (also mentioned above!) at <http://ali.apple.com/>. Apple itself, as you may know, included KidSafe, which controls access to the Internet, as part of its iTools package introduced in January. 

World of Fun & Learning Kindergarten

★★★★

\$20, Humongous Entertainment

800-499-8386

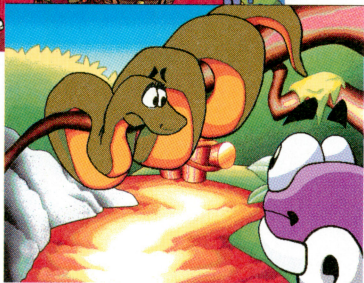
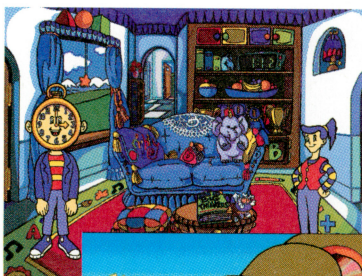
www.humongous.com

Humongous Entertainment's *World of Fun & Learning Kindergarten* is as cute as its billing, but I'd be pretty darned impressed with a five-year-old who got this one all figured out.

The \$20 CD-ROM set comes with two discs — one contains a cartoon adventure, Putt-Putt Saves the Zoo, and the other contains a Big Thinkers learning series (see Education News for more information). Putt-Putt is a cute little purple car who talks and drives around the zoo trying to save baby animals who have escaped on opening day.

The animation is adorable, and at times, it's much like watching Saturday morning cartoons. It's when your children are called upon to interact, though, that things might seem a little difficult.

The program offers few clues as to how to actually jump-start little Putt-Putt — you have to move the cursor in the direction you want him to go, wait for the arrow to change to a direction sign, then click to start him moving. The Read Me contains detailed instructions as to how to save the baby animals, so parents can help, but the game itself is fairly complex, and your child might need help if he or she is to avoid becoming frustrated. You can click on Putt-Putt himself for clues, which is helpful, and



once your child gets used to clicking around the screen, help, and cute surprises galore, are available.

The Big Thinkers CD-ROM contains lessons in letter identification, measurement, and estimation. The games are friendly, beautifully animated, and cheerful, but again, run the risk of being a little too hard for your average five-year-old to navigate without help. As a parent-child bonding session, however, the series can be great fun. It boasts Humongous' customary attractiveness and polished look, and the set comes packaged with a little notebook for stickers, learning, coloring, and fun that alone is worth the \$20.

—Molly Wood

Starry Night Backyard 3.0

★★★★

\$64, Sienna Software

800-252-5417

www.siennasoft.com

Look up in the sky! Is it a planet? Is it a constellation? Is it an asteroid? Well, actually, I don't know what the heck it is. If you're like me, you've time and again appreciated looking up at the clear, twinkling, starlit sky, but remained content in the knowledge that some things must remain unknown. *Starry Night Backyard* can change that. Unlike the \$149 *Starry Night Deluxe*, the *Backyard* version won't let you leave the Earth, and hence is a little easier on beginners.

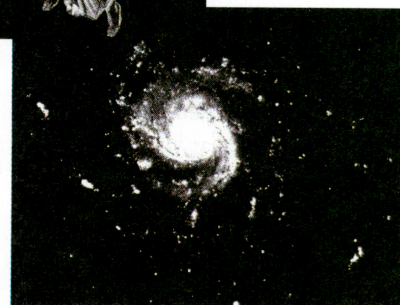
Set the program to view the sky from where you're located, and each time you start up, you'll see your home view. If you want to pretend you're somewhere else, just change the settings. You can view the sky from anywhere in the world or even from some other point in time — check out what the sky looked like at the time you were born.

At any given time click What's Up Tonight? and your Internet browser will open to www.LiveSky.com, a site, updated daily, where you can find complementary educational links about what you're learning, as well as events that will happen in the sky that night.

Starry Night Backyard 3.0 is quick and wonderful to behold, once you get a handle on all its controls. Definitely take the time to discover all the features here; the whole family will be better equipped to stargaze from the porch on an upcoming summer evening.

If you've been impressing your friends for years because you're always the first in the group to spot the Big Dipper (or is that the Little Dipper?), get ready to really impress them on your next camping trip. You'll shine brightly when you're armed with a printed out star chart and your newfound knowledge of what's up there.

—Carolyn Blackburn



World Talk/Talk Now!



\$25, EuroTalk Interactive

www.eurotalk.co.uk

As anyone who's not from America will tell you, learning another language is one of the most important things you can do (well, after learning English, that is). But language software is a tricky subject, just as are language tapes and the like. Are you really learning the language? Are you going to retain anything?

The answer to both is, probably not. Obviously, using a computer is not the best way to learn a language, but it can be a good jumping-off point, and it can be a great practice tool.

To this end, EuroTalk Interactive, a London-based company, has a line of language software that can teach you the basics of just about any language you can imagine. Its newest line, entitled *World Talk*, is billed as intermediate level study, and the company offers a line called *Talk Now!*, for "complete beginners." The *Talk Now!* line includes tutorials in Afrikaans, Amharic, Finnish, Catalan, Maltese, Indonesian, Irish, Welsh, and Xhosa, to name a few. Wisely deciding I wouldn't likely find much use for Maltese (much as I would like to!), the company sent me Italian and Spanish, and a French *World Talk* CD-ROM.

Both programs include vocabulary topics that teach you basic words and phrases. *Talk Now!* uses basic topics such as first words, shopping, numbers, and time, so you can find out where the bank is, how to order a beer, and how to ask where your luggage is when you make the trip to Florence.

The games incorporate clever quizzes, picture dictionaries that can be printed for later study, memory games, and a way to save your progress under your own name. Best of all, though, each CD-ROM, even the beginner's version, has a function by which you can record yourself speaking and play it back to evaluate your pronunciation.

Now, we all know it's not easy to learn another language. But EuroTalk's *Talk Now!* isn't kidding when it says this line is for complete beginners. I mean, if you've seen those Taco Bell commercials, you know enough Spanish to ace the program's quizzes. It's easy enough to be slow-moving, and we all know that slow-moving doesn't hold anyone's interest, especially not

if there's surfing to be done. In addition, repetition is the key to learning a language, and once you've been through the *Talk Now!* program once, aside from recording yourself to hear how good your accent is, it's going to seem boring to go back for memorization purposes.

World Talk has a little more success in the boring department, although the software seems closer to beginning levels than intermediate. It, too, is not terribly difficult, but it's got more variety than *Talk Now!* and makes you feel as though you're learning something a little more valuable than the standard tourist fare.

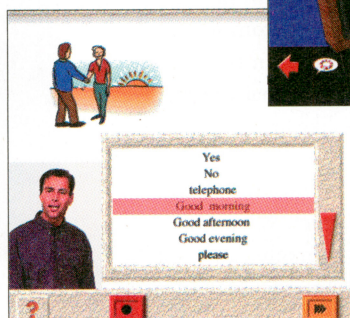
World Talk is recommended by two outstanding features: the recording studio function and printable worksheets. The recording studio function allows you to mimic the speaker, record yourself, and play back your voice to test your pronunciation. This feature is available in *Talk Now!* as well, but you can only record individual words or short phrases. The *World Talk* software allows you to record phrases in conversations that range from basic to fairly complex. The internal microphone on the iMac, as noted in the Read Me file on the CD-ROM, is not sufficient for high-quality recording, so you'll probably want to use an external mic for extensive recording. The printable worksheets test both reading and listening comprehension —

both important aspects of language learning — and you can print them and take them with you.

The interfaces of both CD-ROMs are a bit unhelpful sometimes. The construction seems as though it must be extremely European, and the icons, buttons, and pictures are sometimes totally baffling. In fact, the overwhelming characteristic of the interface is its total lack of instruction.

If you're willing to be patient with this software — and patience is the key to language instruction — you'll probably find it worthwhile, but I'd suggest skipping the *Talk Now!* series unless you've literally never even heard another language spoken anywhere and head straight to *World Talk* for some intermediate instruction. Trust me, you'll pick it up.

—Molly Wood



Port Authority

Make VST your Port Authority for all things Macintosh. USB or FireWire®. VST's got the products that meet your computing demands.

USB products range from the Floppy Drive with color kit and the palm sized Hard Drives to the portable CD-RW Drive and the versatile Tri-Media Reader.

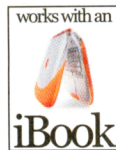
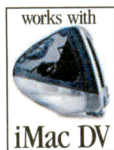
For FireWire ports, VST's FireWire products are the perfect fit. From the popular ultra-slim Hard Drives and Zip250 Drives to the new FireWire RAID Array, storing and transferring your files is a breeze.

USB and FireWire ports, now on the new PowerBook G3, give users the best of both worlds. And with the added convenience of an expansion bay, VST's expansion bay storage devices and power accessories, built with your productivity and portability in mind, gives new meaning to the phrase "take it outside."

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VST
www.vsttech.com



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Back to the Roller Rink

Emulators Bringing Classic Games Back to the Mac

Plugging quarters into the arcade machine, gathering around the Nintendo for some quick action before dinner. Your first Atari. There's a lot to be said for retro styling, and hey, computer games are no exception.

If *SimCity* doesn't cut it, *Unreal* makes you a little queasy, and *Big Race USA* just makes you long for a real pinball machine, emulation could be your thing.

Gamers are nothing if not loyal. A generation weaned on *Frogger*, *Q-Bert*, *Joust*, *Gladiator*, *Super Mario Brothers*, and *Tetris* certainly isn't going to leave those adolescent favorites behind just because they now play *Quake* and *Tomb Raider* on iMacs and G3s. Face it: As long as there are geeks who love games, they'll be bringing those games to the geeks of the future. Enter emulation.

In simple terms, an emulator is a software program that actually changes the way your computer functions. An arcade emulator will make your computer function as an arcade machine, so you can play the games you grew up on without leaving your computer or plugging a single quarter anywhere. A home video game console emulator will make your computer function as a Sega Genesis, Nintendo, or Atari, so you can play those \$80 video games right on your computer — and they'll probably look a heck of a lot better. There are emulators for what amount to the first computers that played games — things like the Apple IIe, the Commodore 64, and Atari. You can even emulate hand-held

consoles like the Nintendo Game Boy.

Emulation is an ever-growing phase that really took off in 1997, when an emulator called NESticle was developed to make computers function as Nintendo

Entertainment Systems (NES). NESticle was the first of the genre that was relatively easy to use and widely available for free download from the Internet. The technology had certainly existed before, but it was confined to a relatively small, relatively unskilled population. NESticle sparked a not-unexpected revolution and a new population of throwback gamers.

"Tons of people downloaded it," said Kevin Bowen, editor-in-chief and site director of Classic Gaming (www.classicgaming.com).

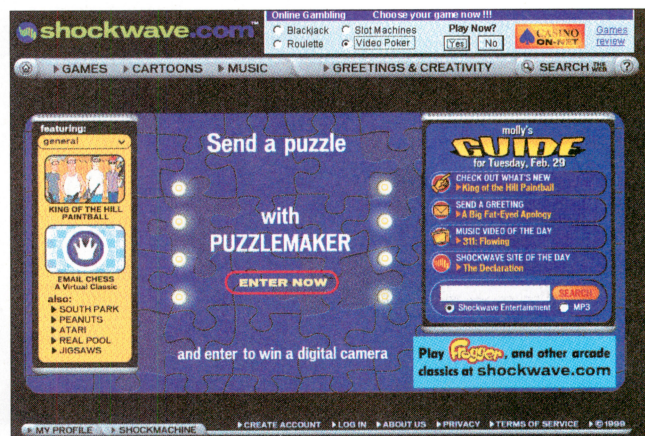
"That's really where I got started, too. The community started to develop, and now it's to the point where almost everything has been emulated."

That's where you come in. Like every-

thing else cool, retro, and Internet-related, emulation started in the seedy underbelly of the World Wide Web, and now it's poked its pale little head into the sunny mainstream. Emulation software is available for download at dozens of sites. But they don't work alone. Getting the games is the tricky part.

Quit Copying Me! Quit Copying Me!

In order to play games on your emulator, you need the software itself, which



can be downloaded from a number of Websites. We recommend getting MAME (Multiple Arcade Machine Emulator), which is the most popular arcade emulator. MacMAME is its name over on our side, and it's at www.macmame.org. MAME can emulate more than 1,100 arcade games — favorites like *Street Fighter*, *Pac-Man*, *Centipede*, *Frogger* — use your imagination.

We also tested DGen, a popular and ever-improving Sega Genesis emulator

found at www.emulation.net, along with Mac OS-related emulation news, software, and games. Between MacMAME and DGen, you ought to be able to play most of the games you'll want to, but for a more complete list of emulators, check out www.classicgaming.com and www.emux.org, which lets you browse emulators by category.

Let's take a walk through both, starting with the bottom-of-your-shoe sticky issue of ROMs. ROM, as we mentioned, is a game's code. Since the emulator makes your computer behave like an actual arcade machine or video console, and the game's ROM can't tell the difference, it runs just as happily as if it were on a native Nintendo. Thus, you can play. And you're not faking it either. Since you're using the game's original ROM, you're playing the original game.

But ROMs, much like MP3s, are not technically free, and in some cases, they're not technically legal. You're supposed to own or have license to each ROM set you want to use. So if you don't own the original arcade boards, and you haven't figured out how to "dump" the ROM images from the board onto your hard drive, you may not be legally allowed to download certain ROMs.

However, most companies don't sell ROMs or provide a means for you to purchase them. In some cases, Bowen says, the company that made the game no longer exists. There are some places that provide ROMs for download on the assumption that you have the legal right to obtain them, and Classic Gaming, for example, only distributes games for discontinued systems—those that are no longer making their manufacturers any money. In addition, some companies have released their games to the public or allow not-for-profit distribution for complete legality.

Companies with more recent and modern systems, like Nintendo 64, tend to be a bit more strict, and downloading ROMs for N64 games might be a little further into the black edge of the gray area. Then there's a whole cottage industry called New Classics, in which programmers write a new game for an old

system and release it as a ROM image, minus the cartridge. It's a complicated issue, and we urge caution. Visit the Classic Gaming site for guidelines and "safe" ROM downloads.

Essentially, downloading ROMs for use in emulators is similar to downloading MP3s. It's assumed, implicitly and explicitly, that you'll do it responsibly and legally, and we personally wouldn't have it any other way.

Back to the Future

So, you've got your emulator, and you're now faced with a blank folder where all your games should be, right? Unfortunately, the emulators themselves



An emulator like MAME can bring old-school arcade favorites like *Space Invaders* (left) and *Street Fighter* (right) home to your Mac.

MAME can understand. So, if the file isn't called "invaders.zip" after you download it, but it was called "invaders.zip" before you downloaded it (my computer stubbornly renamed every file "download.cgi"), you'll have to change the name back. Then, drop the file in the ROMs folder inside your MacMAME folder, and double click to start MAME.

The game should appear in the folder to the left of the window, and just double click it or hit Play to start playing.

There are a lot of reasons why this won't always work. You can count on some of the big-name games to work, but some of the ROMs are bad, outdated, or have the wrong drivers. The problem is, this is often a matter of trial and error, and the emulator-makers are not available for tech support. For that, you'll have to turn to newsgroups and chats.

DGen works much the same way, except that you'll have to unzip your downloads and just drag the unzipped file (with a name like SONIC1.SMS) into the larger DGen folder (there's no

don't come with the kind of specific instruction you're probably looking for at this point.

Let's start with MAME. Head on over to Classic Gaming and take a look at The Vault — or, if the Game of the Week happens to be a MAME-supported ROM, start there. Most of the ROMs you'll want to download are fairly small — less than a megabyte in most cases, so it shouldn't take long, even if you're using dial-up.

Choose a game you want to download, and make sure it's one your emulator supports. At Classic Gaming, the ROMs are divvied up by category, such



folder specifically for ROMs) and then open the game from the menu after double clicking on the DGen icon.

From there, you can fine-tune the games by changing settings, playing with memory, downloading drivers, music, sounds, and on and on. Once you're in, the possibilities are endless.

The Straight Story

Emulators can be incredibly entertaining, but they're certainly not for the faint of heart. If you're going to make it a hobby, prepare to have to work at it. It takes patience, and, in some cases, a lot of arcane knowledge. The software isn't really intuitive, and it's not really easy to use.

There are other commercial products, too, should you still want to play the classics without the hassle emulation can sometimes be. PlayStation, for example, has a variety of game collections that are emulators, and then there are the New Classics — remakes of games like *Frogger*, *Missile Command*, and *Q-Bert*.

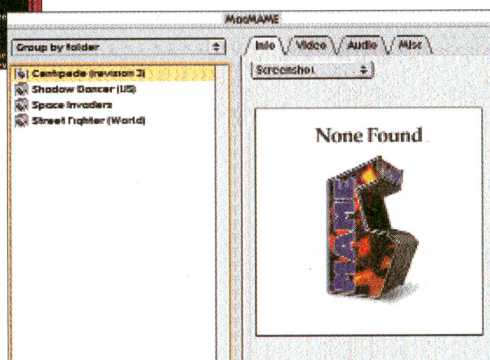
But a little hassle never stopped a true purist, and the popularity of emulators, regardless of their difficult nature, is testament to just that. Classic Gaming, Bowen says, gets about 30,000 visitors every day.

There's an ever-growing number of emulation Websites out there, too, such as Emux, Emulatronia (www.emulatronia.com), EmuTimes (www.emutimes.com), a newsletter, and Retrogames (www.retrogames.com), plus a host of tips, chats, cheats, message, news, and archive pages. See the MacMAME home

page for an impressive listing. The sites serve as ROM outlets, provide emulator downloads, and offer discussion groups where the future, the past, and the love of emulation is endlessly dissected.

"There's just such a broad demographic," Bowen says. "Everything from the past 20 years is covered in some way.

A lot of people play older games



because they remember them being fun as kids or because they don't like games today because they think they're too complicated."

At this point, now that we in the mainstream press (ouch) are starting to pay attention, it may be that the future of emulation is in some peril.

Big companies are starting to crack down on distribution of ROMs, while even bigger companies start to worry about the old bottom line. Those aforementioned commercial systems have made more of a splash than the downloadable kind — even though MAME and similar software might be more insidious — and they've brought the underground emulation scene out into the open. Witness Sony's lawsuit against Connectix, which developed a Mac-based PlayStation emulator, and Bleem LLC, which makes one called Bleem!. Both lawsuits failed, but Sony has since vowed to appeal the Connectix verdict.

As always, it's a tricky moral and financial subject. Fans of classic gaming as a genre and a movement are typically messianic in their desire to keep it pure. For them, N64 emulators amount to cheap stealing and emulation isn't about getting to play *Zelda 64* for free. It's about playing *Centipede* for fun. **MII**

Online at the Arcade

If all this talk of emulation has got you yearning for a quick and easy arcade fix, the Internet, at always, is here to serve.

You don't have to download a complicated emulator to play some of those old favorites. Several of them can be found on the Internet, with some pretty impressive results.

Check out a couple of these entertainment sites — they've got the goods, from music and cartoons to old-style arcade games, and some new goodies, too! It's better than Solitaire for a few minutes (hours?) of distraction.

Shockwave, www.shockwave.com

Shockwave lets you download its animation technology for free, then use a free membership to customize the page and take a timeout from a busy day. Play old-school games like *Real Pool*, *Centipede*, *Frogger*, *Missile Command*, and *Super Breakout*, plus South Park games (try the one where you aim cheesy-poofoos into Cartman's wide-open mouth — it's fantastic), virtual chess, King of the Hill Paintball, and more.

Free Arcade, www.freearcade.com

A bit of a slow loader sometimes, but this site has the old goodies coming at you from all sides. You'll find classics, no end of newer arcade games, puzzle games, board games, card games, sports games, casino games, the top 15 list of favorite arcade games (collect them all!) and contests. It's amazing — never has so much fun been concentrated in one small space.

The Virtual Arcade, www.thearcade.com

More arcade games, news, contests, and links.

Shanghai: Second Dynasty



\$30, ActiVision

www.activision.com

If you haven't played the *Shanghai* series of puzzle and Mah-Jongg games, it's easy to be skeptical: How to translate into a computer game the delicate, intricate, and ancient art of shifting puzzle tiles to create or remove patterns? How to render the lovely art, the complexity, and the sometimes deadly seriousness of the game?

Never fear. ActiVision has been doing just that for years, and *Shanghai: Second Dynasty* — the latest in the series — is no exception to the standards we've come to expect.

Shanghai actually contains two games in one: Shanghai and Mah-Jongg. Shanghai is a matching game, similar to the card game Memory, in which you must match identical pictures from a pattern of randomly placed tiles. The tiles are stacked atop each other in three-dimensional patterns, which means the tile you need may be buried deep under a stack of others. Also, you can only match "free" tiles — those that can be shifted either left or right, or up or down. Mah-Jongg involves playing with the tiles like cards and arranging them into patterns. It's far more complicated than Shanghai, and likely the less popular of the two options. There are six versions of Shanghai to play, and Mah-Jongg in American or Chinese style.

If you're just getting started, you'll spend days on Classic Shanghai, which includes Two-Player mode and Arcade mode, which pits you against the clock for a series of 25 layouts. Later, there's Pandamonium (yes, it's supposed to be spelled that way) in which up to four computerized players — online play is not yet available for the Mac — compete to see who can remove the most tiles; Power Dragon's Eye, in which you start with eight tiles and "build" a Dragon by placing tiles in a pattern; and Windstorm, in which the criteria for a "free" tile changes from left/right to up/down or any direction. There is also Shanghai Dynasty, in which you compete against four opponents to see who can clear his or her layout first. Each version of Shanghai includes several different tile layouts. The kids' version offers lay-

outs ranging from 28 to 68 tiles.

The variations contained in *Shanghai: Second Dynasty* seem impossibly intricate to the neophyte. Like a lotus blossom, however, the game only seems complex to the uninitiated. Once you set your mind to the task, Shanghai unfolds into a lovely, natural flower of a game from which you can't look away.

Players can upload or download custom-designed tile sets or layouts, but there are 14 3D tile sets — from Chinese, Japanese, and Dynasty styles to Astrology, India, Tarot, Fantasy, and Flags of Soccer Countries — that should prove sufficient for most. For the kids' games, tiles come decorated with alphabet, household

items, math, pets, and spelling themes. The game is lovely, and the 3D effects are impressive. The game lets you shift the tile view left, right, up, down, and diagonally to improve your chances of finding a match.

Shanghai features a host of charming details

that add to the seeming authenticity of the game, and offer pleasant surprises. The soundtrack of the game is gentle synthesized music accented with the strains of a rushing stream. Once you match a set of tiles, you're treated to a cute little animation of, say,

flowers blooming, dragons roaring, or bamboo shoots sprouting, and the tiles make satisfying clacking sounds as you click on them. *Shanghai* is also a helpful little creation.

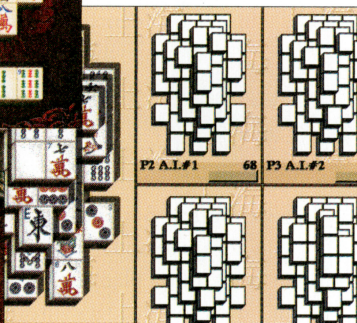
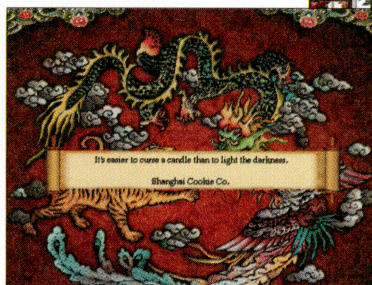
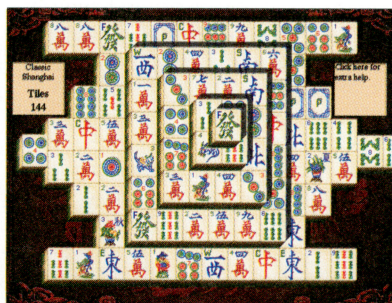
At every turn, you can have the computer find you a match or show you where a matching tile might be buried under several others. Should you get stuck, you can have the game go back a move, or even shuffle the tiles to give you more options.

Don't be fooled, however: all that 3D animation, all those little cartoons, and all those built-in cheats, options, and helpful hints take up *space*. *Shanghai: Second Dynasty* roars into your hard disk like a marauding army — requiring a relatively shocking 80MB for game files — and demands 64MB even to run properly.

Another obvious shortcoming to *Shanghai: Second Dynasty* is the frustrating lack of online play for Mac users. Once you get good, you'll wish you could challenge a fellow aficionado.

Aside from a mildly irritating inability to play full-screen Shanghai — the window sits in the middle of your screen and it's so lovely, the monitor's background proves a minor distraction — the game is stylistically flawless. It's fun, addicting, gentle entertainment that's fresh as a mountain breeze.

—Molly Wood



Seventeen Style Studio



\$20, MacSoft

800-229-2714

www.wizworks.com/macsoft

Now, it would seem that the target audience for *Seventeen Style Studio*, a digital makeover program, would be fairly limited: say, girls aged 13 to 17. But believe me, you'd be surprised. Hardly anyone in our office didn't get a digital makeover, and our managing editor looks surprisingly good in a flippy little bob.

Seventeen Style Studio is a wonder of sheer, unadulterated silliness. Scan a photo of yourself, use a digital photo, or have new photos developed onto a CD, import the image into the program using a simple interface and easy-to-follow instructions, and let the beauty regi-

men begin! The program lets you apply a palette of hairstyles, makeup choices, hats, sunglasses, jewelry, and even outfits to your newly pliable face. Deck yourself out in a crazy-wild orange shag,

give yourself Big Hair like you always secretly wanted, or heck, put a platinum blunt-cut on dad. It's surprising how much fun it proved even for the folks in the office who didn't dissolve

into girlish shrieks at the sight of the pink box.

The genius of the program lies in two things: the hairstyles, and the environments. You can plop your head onto a flawless, tanned, bikini-clad body in the Riviera, a runway model, or a lounging hipster in London with a view of Big Ben. If your photo is cropped correctly, the hairstyles can be amazingly realistic, and you can customize the skin tone of your new head to match your new body.

The program fails a bit when it comes to makeup and accessories. The makeup can't help but look a bit cartoony—particularly the lipstick, where, for some reason, you're required to draw the outline of your lips and fill them in, so that when you "apply" the lip color, it's crooked, awkward, and way too bright. It's also hard to get your model heads sized right for earrings and especially necklaces.

All in all, *Seventeen Style Studio* is an affordable diversion that requires a paltry 24MB memory, and is easy enough for even the most intrepid 13-year-old to use. Little brothers will love it, too!

—Molly Wood

Skittles 2



\$25, Shareware

www.skittles2.com

Oh, the lovely and seemingly endless variations on *Tetris*. Among the latest is a shareware gem entitled *Skittles 2*. Surely, such genius cannot be rivaled.

The game is fairly straightforward, in a goofy sort of way. The story, as told in the *Skittles 2* Read Me, is that a mad scientist managed to create a batch of living Skittles, "brought to life by the miracles of genetic mutation." Mutated with rabbit genes, no doubt, as the little candies began to multiply dangerously until a researcher discovered that the little buggers became "extremely reactive" when grouped together, and when four Skittles of the same color touch, they vaporize!

Wowsa. A star is born.

Lest I sound cynical, let me say now that *Skittles 2* is completely entertaining. In keeping with the harmless theme of this month's reviews, the little brightly colored candies fall from the sky with cute plopping noises, and join together happily. Indeed, if one colored candy is left "alone," it will screw up

its candy face and cry big Skittle tears. Awww. The goal, *Tetris*-like, is to keep the Skittles from piling up to the top of the board. You do this by flipping, flopping, and arranging them so that the colors match up and the Skittles vaporize in chunks of four.

There are some slight variations on Tetris, however. You're playing against either a computerized opponent or a partner, and you've got to strategize your block-building so you can dump spent Skittles onto your opponent's board when you clear several lines at once. Just clearing four Skittles at a time could prolong the game ad nauseum, in fact, if your opponent is an even match. So the game becomes a puzzle. *Skittles 2* features 12 stages with computer opponents that adjust to your style of gameplay. There's a Solitaire mode so you can hone your skills, as well.

Skittles 2 is a little expensive for shareware, but it's about as cute as they come, and you can try it for free if you're not sure you'll be won over. I think you will, though.

—Molly Wood



The Space-Mac Continuum

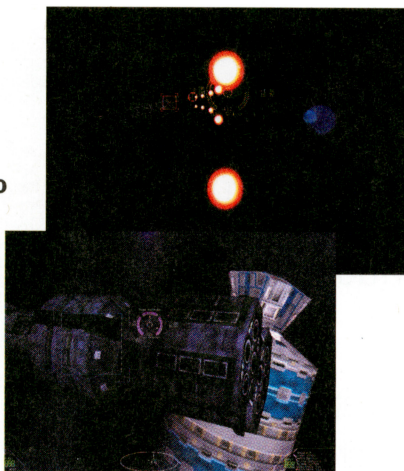
It's almost creepy what they're up to these days. Vicarious Visions has developed a space combat simulation that, if it's all it's cracked up to be, could conceivably supplant real life for some. *Terminus* was simultaneously developed for Linux, PC, and the Mac, so Mac gamers can play against PC and Linux gamers online — and it's believed to be the first game developed on Linux.

Aside from those obvious benefits, though, *Terminus* is a persistent-world game, which means the “universe” in which *Terminus* exists moves and interacts all the time, regardless of whether anyone is playing (um, yikes?). Plus, the storyline of the game, which includes human and non-human characters and 18 fully equipped space stations, evolves without the players as well, so gameplay is more challenging and realistic. On top of all that, developers boast that the game as a “real-time” economy — one that's subject to the laws of supply and demand, ever-changing prices, inflation, and the like, regardless of your actions as a player. As a player, you can choose your profession according to its level of difficulty (be a fighter pilot, a miner, a mercenary, a pirate) and your computer-controlled characters are said to actually express human emotions — anger, impatience, even love.

The game also features both text and voice chat. Rather than “room-based” chatting, players can choose a frequency on which to chat. The feature could allow players to discover the frequency of a team's chat, listen in, call out fake commands to distract or disorient other players, and even sabotage well-laid plans.

Early returns indicate that *Terminus* could be among the more immersive games, oh, I don't know, ever. The buzz so far is unanimously impressed, so say good-bye to your old lives, kids. It's a brave new world out there in space. Vicarious Visions plans to ship *Terminus* in April.

Vicarious Visions, www.vvisions.com



A Taste of Unreality

It pays to be a fan. Epic Games, producer of *Unreal Tournament* is kicking out a little thanks to all those who've made it an unqualified success. That particular thanks comes in the form of an *Unreal Tournament* bonus pack. It's available for free download (or on our CD this month!) and includes new characters — including three from the original *Unreal*, 11 new levels aimed at DeathMatch and Capture the Flag players, and a new addition to the game called “Relics.”

The new characters include old favorites like the the Nali Warcow, “the only domesticated beast of the militant Nali ... trained to fight instead of lactate,” while the relics add such features as health, speed, defense, regeneration, and the always-important ability to kill enemies after your own death!

Epic, <http://unreal.epicgames.com>

The New Beach

Well, until we can get *The Sims*, we can always hold out for *Tropico*, a new strategy-based simulation game from PopTop Software.

PopTop says the game puts players into a 3D tropical paradise where they can build a nation from the ground up. Players of *Tropico* are newly installed dictators who must work toward the peace and prosperity of their impoverished Caribbean island nation.

PopTop says diplomacy and politics will play a strong role in the game, as dictators try to control internal uprisings and deal with external threats as well. Failure could lead to civil unrest and even martial law. But don't worry, you can stash a few million in a Swiss bank account — just in case. We like it, we like it! The game is expected to debut on both PC and Mac later this year.

PopTop, www.poptopsoftware.com

Fly for the New Millenium

Terminal Reality and Gathering of Developers are back together to deliver FLY! 2K, the second installment of the aviation simulation FLY! (which, you may recall, we reviewed in December as “Boring!”). FLY! 2K, despite its predictable moniker, adds better sun-and-cloud graphics in the form of the SKY! (all right, already!), detailed weather models, accurate night lighting, and better graphics for runways, taxiways, and airport buildings. FLY! 2K also adds Roger Wilco, a real-time chat function so online pilots can chit-chat about landing tips and the like. Players, er, pilots can also take advantage of new instruments-only flying, so players can fly in all sorts of weather using instruments instead of sight to navigate. The enhancements will be available in April via CD or download.

Gathering of Developers, www.godgames.com, 877-463-4263

Coping with Crashing

Understanding why your Macintosh Crashes

A crash can be an especially traumatic event for a new owner. The screen freezes; the keyboard and mouse are unresponsive; and the computer is silent save for the lonely, aimless whirl of its hard drive. The first question many new owners mistakenly ask themselves is, "What did I do?"

They assume that their unfamiliarity with their new Macintosh has led them to accidentally trigger some sort of built-in self-destruct sequence. The Mac OS's bomb dialog does little to discourage this belief, unfortunately. "If only I was more familiar with the computer," the new owner cries, "I surely would not have destroyed it!"

Now, unless you've squeezed mayonnaise into the compact disc slot or poured cola through the air ducts of your Macintosh, it's unlikely that you're responsible for the crash. Pressing the reset button almost always returns the computer to life.

The most frequent cause of a crash is that one software component simply doesn't agree with another. The Macintosh operating system is made up of many different pieces of software. Think of each such piece as a feisty 12-year old child, and the Macintosh as a trusty old school bus. As you start up your Macintosh, you load each child into the bus. Now, most of these children are well behaved. Occasionally, however, two or three of the children will be a bit unruly.

Let's consider Chuck and Matthew. Chuck's a bit of a troublemaker, and

Matthew's not one to back down from a fight. Chuck was one of the first on the bus and he sits at the back, while Matthew got on the bus much later and sits towards the front. There are no problems so long as Chuck and Matthew don't interact. Now let's say the bus driver calls Chuck to the front. The minute Chuck sees Matthew, he starts calling him names and instantly the two are locked in a fistfight.

The bus driver immediately slams on the brakes. She cannot continue to drive as long as the two are in disagreement.

So, the cause of most crashes is the interaction of two pieces of software that simply don't get along. The computer comes to a halt because it does not know how to remedy the situation. Over time, both Chuck and Matthew will have extensive therapy to quell their inner turmoil. Likewise, a software publisher undertakes extensive troubleshooting to ensure its software does not conflict with other pieces of software. Once bugs have

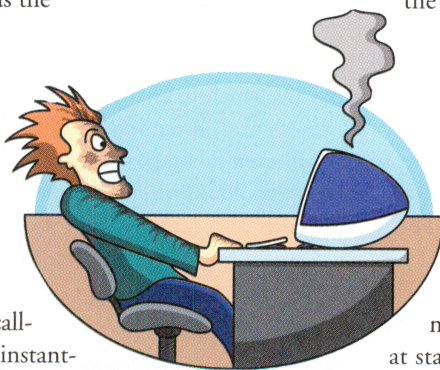
been identified and corrected, a software update is released.

Occasionally, but more seriously, crashes will occur due to hardware failure. Think of your Macintosh as a trusty old school bus once again. Now imagine the school bus has a flat tire. You might be able to start its engine, but the moment you attempt to drive the bus, you'll discover it is dead in its tracks. Macintosh hardware failures can strike the moment you turn on

the computer (a black screen displaying a sad Macintosh appears, indicating a logic board or memory failure), or can creep up like a slow coolant leak (a minor defect in memory not detected at startup or a corrupt section of the hard drive).

It's important not to panic if you suspect a hardware problem. Take your Macintosh to an authorized repair center and let a professional assess the situation. Remember that your new Macintosh has a warranty to guard against such happenings.

Your Macintosh will crash. It's a cold, hard fact of computing life. And although it may be symptomatic of a deeper problem, more often than not it's an isolated, incidental event. Press the reset button, grab a coffee, and go back about your business. **III**





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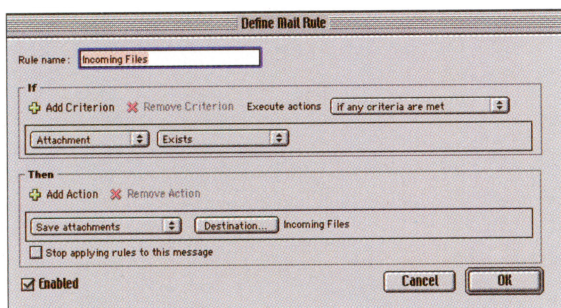
MacWEEK.com
MacBuy.com

 **iMacworld**
MacCentral.com

Create an Outlook Express Incoming File Folder

Microsoft's Outlook Express 5 has the nasty habit of keeping incoming email attachments all to itself. Arriving files are compressed and kept in a large database file until you access the message within the application and drag the attached file to the desktop. This can be tedious, especially when you just want to quickly grab a document without opening your email application. Worse yet, if you decided to delete the email message and you haven't yet dragged the attached file to the desktop, the file is deleted along with the message.

Thankfully, you can create a mail rule that automatically saves attachments to an incoming file folder of your choice. Locate your Outlook Express folder. Create a new folder within the application folder and title it "Incoming Files." Now select Make Alias from the File menu and drag the alias to the desktop for quick access. Launch Outlook Express and choose Rules from the Tool menu. A new window titled Mail Rules appears. Click the New button in the top left to



open another window and define a new mail rule. Give your new rule an appropriate name, such as Incoming Files. Move down to the If box and select Attachment from the pop-up menu. Select Exists from the pop-up menu that appears at the right. This tells Outlook Express to scan for messages with attachments. Move down to the Then box and select Save Attachments from its pop-up menu. Click the Destination button at the right and choose the Incoming Files folder you just created. Finally, uncheck the options marked "Stop applying rules to this message." This ensures that other existing rules are applied to these messages. Click Okay and return to the Mail Rules window, and drag your new rule to the top of the list. This allows the rule to collect attachments before other rules have a chance to sort the incoming email. From this point on, all incoming attachments will be saved in your new Incoming Files folder.

Quickly Power Off Your New iMac

Have you ever had your slot-loading iMac crash just as you were heading out or getting ready for bed? It can be quite annoying to press the reset button and sit and wait while the iMac reboots, checks the hard drive for problems and then starts up, only for you to select Shutdown from the Special menu. There's actually no need to wait (or to haul the power plug from the wall). The new iMacs are equipped to power off after you press and hold the power button for five seconds. You can simply leave the disk check until the morning.

Monitor Your Time Online

Ever wonder just how long you are online? You can tell very easily with the Control Strip's

Remote Access module. Click once on the Remote Access module (the one that has a classic Macintosh flanked by a telephone pole). Scroll upwards with the mouse and select "Status display..." A dialog box appears asking what information you'd like to display in the module. Click "Time Connected" and press "Okay". Now, each time you log on, you'll be able to monitor how long you stay connected. This is very handy if you pay a per-hour fee to your ISP (Internet Service Provider) for Internet Access. Consider, however, that many ISPs now offer unlimited usage for one monthly fee. Frugal users may wish to check with theirs to see if it offers a similar

share your tips!

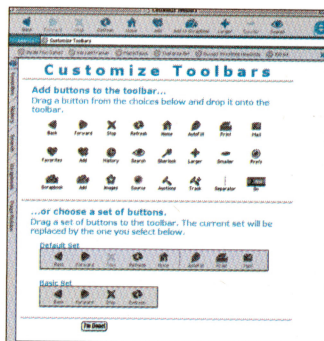
Got some tips you'd like to share with your fellow MacHome readers? Please send them to us at:

chris @ machome.com

All mail is assumed intended for publication, and we reserve the right to edit tips for brevity and clarity. When sending your tips, please make sure to include your full name.

Customize Your Toolbar with Internet Explorer 5

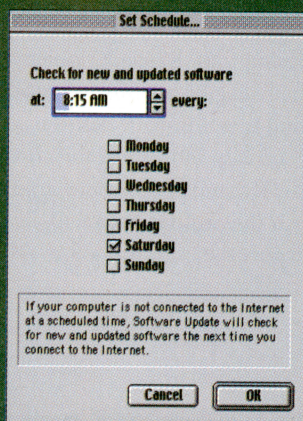
Microsoft's latest browser allows web surfers to completely customize the toolbar. Launch Internet Explorer 5 and select "Customize Toolbars..." from the View menu. A page appears containing a gamut of buttons. Aside from the basic navigational buttons for back, forward, reload, stop and home, you can buttons that take add the current web site to the favorites menu, copy the current web page to the scrapbook, track auctions and autofill forms. To personalize Internet Explorer 5, you need only drag and drop the buttons to the toolbar in the order of your choice. Don't like the blueberry buttons? No problem. Simply select a flavor of your choice from the Browser Color submenu within the View menu. Finally, those of you with smaller displays will appreciate the option to collapse the toolbars altogether. You can either click on the arrow button just above the Favorites tab or press command-B to pull the toolbars from sight. This allows maximum viewing area for web browsing while displaying a miniature vertical toolbar that provides essential navigation buttons.



Have Your Mac OS Update Automatically

Mac OS 9 includes a clever little control panel called Software Update that will automatically download and install new Mac OS updates for you. Open the Software Update control panel and click Update Now to determine if any updates are currently available. Software Update will connect to the Internet, poll the Apple server for any Mac OS updates you have yet to install, and present you with a list of software you are missing. Check the items you wish to install and click Okay. The control panel will now go about the work of downloading and installing the updates. Once it's complete, it will restart your Macintosh.

You may wish to have the Software Update control panel poll the Apple server at a regular interval for new updates. Launch Software Update, check the option to Update Software Automatically, and then click the button below to "Set Schedule..." Choose a time that the computer is likely to be on, but not necessarily in use. (Perhaps 8:15 AM on a Saturday—you might like to set the Energy Saver control panel to automatically turn on your Macintosh at 8:00AM each Saturday if you don't think you'll be up). Just select one day, as it's rare for Mac OS updates to appear multiple times each week. Click Okay to set the schedule and return to the previous window. Uncheck the option to "Ask me before downloading new software" to ensure the process happens without requiring your intervention. Now your Macintosh will automatically update itself each Saturday, if any new updates have been posted.



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Mac OS 9, IE 4.5 and Stuffit, Hard Drive Woes, Download Problems

Q I recently bought a new slot-loading iMac that came with Mac OS 9 installed. I used Mac OS 8.1 on my old Macintosh, and since I thought some of my applications would not be compatible with Mac OS 9, I decided to partition the drive and put Mac OS 9 on one partition and Mac OS 8.1 on another. When I designate the Mac OS 8.1 partition as the startup disk, it starts up with the Mac OS 9 partition instead. Is there something about Mac OS 9 that doesn't allow recognition of a different operating system on another drive? Or am I overlooking something?

Joe Lambert

A Actually, Joe, the reason your new iMac insists on starting up with Mac OS 9 is because it is not compatible with Mac OS 8.1. The new slot-loading iMacs require, at minimum, Mac OS 8.6. Previous versions of the operating system do not include the required code to operate your computer. Don't take it personally. Mac OS 8.1 is not supported by the slot-loading iMac, iMac DV, iBook, Power Macintosh G3 (blue & white), Power Macintosh G4, or the latest PowerBook G3s (bronze keyboards). Updated versions of the operating system are typically written to accommodate new hardware designs. In general, a Macintosh requires at least the version of the Mac OS that ships pre-installed. It will of course support further iterations of the operating system, but backward compatibility is very rare.

Q I am running Mac OS 9 and using Internet Explorer 4.5. When I download files from the Internet, Stuffit Deluxe is automatically opened. I then must seek out the file, determine where it is to be saved, and then quit the application before I can go back to browsing. Of course, I have to repeat this process for each file I download. Is there any way to stop Stuffit from launching automatically?

Robert L. Marks

A Ordinarily, Internet Explorer asks Stuffit Expander to decompress incoming files. Expander quietly operates in the background, unstuffing files and placing them on your desktop so that they are easy to find. In the absence of Stuffit Expander, Internet Explorer will launch the Stuffit Deluxe application. This puts the onus on you to select the

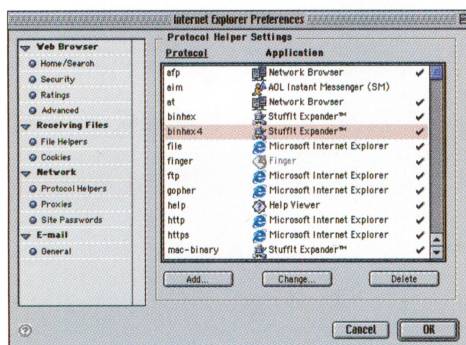
not certain. If you cannot find Stuffit Expander, you'll need to connect to the Internet, visit www.waladdinsys.com/expander/index.html and download the latest version of Stuffit Expander. Once you've got the utility on your hard drive, launch Internet Explorer and select Preferences from the Edit menu. The window that appears will have a listing at the left. Scroll down the list and click on the item marked Protocol Helpers. At the right another listing will appear. Many of these items should be pre-configured for Stuffit Expander. In your case, however, the items may have changed to Stuffit or Stuffit Deluxe. For any such item, click the Change button and then choose Stuffit Expander as the preferred helper application. Once you're done, click OK at the bottom right to save your changes. From now on, any items you download

should be unstuffed in the background and saved to the desktop.

Q I recently purchased a new slot-loading iMac with Mac OS 9. When the computer is put to sleep, it occasionally fails to wake up properly. All I see is the desktop and a watch cursor indicating that the system is waiting for something. I try to reboot using the reset button and I'll get a startup chime, but then just a

blank screen. The hard drive does not start up, and nothing happens at all. I then have to do a hard shutdown, and I get a warning message that the computer has crashed when I reboot. Any ideas?

Steve Adelman



file and start the decompression.

Thankfully, there's an easy fix for this problem. The first thing you must do is ensure that you have Stuffit Expander on your hard drive. Open Sherlock and perform a search for "Expander" if you're

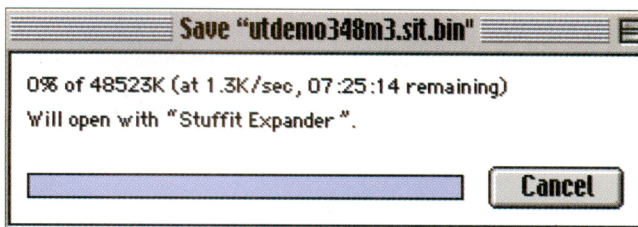
AI have experienced this problem several times with my new iMac DV. It appears that the hard drive simply refuses to wake up, even after the reset button is pressed. Unfortunately, there's no known solution other than to initiate a hard shutdown and then restart. It's important that you press and hold the power button for five seconds to shut down the machine, instead of pulling the power cord from the wall. This ensures you avoid the remote possibility of damaging your iMac with a sudden removal of power. Hopefully, Apple will address this bug with a future update to the Energy Saver software.

QI have a brand new iMac DV with 128MB RAM. I have had trouble downloading large files (50MB or more). I can never seem to complete the download. Netscape returns the message that it has "lost socket connection." My ISP is AOL, and I have recently solved a problem involving frequent disconnections. Although I can now download files around 10MB in size, larger ones still fail. Can you offer any advice?

Steve Rubin

AIt's unlikely that you're doing anything wrong, Steve. The more apt explanation is that your connection to the remote server is being interrupted. Unfortunately, establishing a reliable connection to AOL does not guarantee a reliable connection to each Website you visit.

Let's say you are attempting to download a 50MB file from a fictional server called "www.gamecompanyabc.com." Once you secure a connection to AOL, you type the Web address in your browser and the AOL server routes your request to the game company server. The game company server then sends you its homepage, you locate a cool 50MB game demo and you click on a link to download. It can take over three hours to download this file with a 56K modem. During this time, the AOL server must maintain an uninterrupted connection between your iMac and the game company server. Many things can



happen over the course of three hours to interrupt the flow of data: the game company server may be shut down or restarted; the game company server may be bogged down with requests, slowing every download and forcing your browser to give up waiting; or there could be a third-party interruption in the connection between the AOL and game company servers.

Although it's difficult to pinpoint a specific reason your downloads are failing, you can take a few steps to help ensure you download large files more reliably. Try to download very late at night or early in the morning. Most North American servers experience lower traffic levels at these times.

Secondly, download the file in multiple parts if possible. This will prevent you from having to download the entire

file again if the first download fails. Finally, use the latest Web browser.

Newer browsers handle truncated downloads much

better, often allowing you to pick up where you left off. **III**

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Inkjet Printing

Building an Image Dot by Dot

Inkjet printers have become as ubiquitous as the mouse. Advances in color inks and print resolution have made inkjets the printer of choice for both casual users and graphic designers. The technology behind these clever machines, of course, is another fascinating application of science.

Creating a rainbow

Inkjet printers use a CMYK process to create color images. CMYK stands for cyan, magenta, yellow, and black (go figure), and it refers to the color of the four inks. Mixed together in varying degrees, these inks can create every single color imaginable.

A typical black ink cartridge contains a print head with up to 144 nozzles. Each nozzle is responsible for a single dot of ink. In contrast, the print head of a color cartridge is divided into three. Each color is assigned 48 nozzles, one-third the amount found in a black cartridge. A color cartridge must therefore make three passes to cover the same area as a black cartridge. This is one of the reasons why color printing takes longer than simple black printing.

A single dot is created by applying an electrical charge to an ink-filled nozzle. The electricity heats a series of resistors, causing a microscopic drop of ink to vaporize. This creates a gaseous bubble that rapidly expands, effectively firing ink from the mouth of the nozzle onto the paper below. (Inkjet printers are sometimes called bubblejet printers because of this.)

Once you choose to print a document, the printer's software goes to work. Each page is broken up into nar-

row, vertical bands, and translated into a continuous series of electrical charges that are routed to the print head nozzles.

Let's say the inkjet has been instructed to print the letter "A." Several nozzles near the bottom of the print head will charge and fire ink at the paper to form the bottom left leg of the A. As the print head moves to the right, the process is repeated and the nozzle firing pattern modified according to the changing shape of the letter. In a fraction of a second, the print head has fired thousands of times.

An inkjet thus builds images dot by dot, from left to right and top to bottom. A mechanism in the printer clamps down on the paper and pulls it forward. A description of the page is translated into a series of instructions and sent to the printer. The print heads move into position and fire a short vertical pattern of ink at the paper as it moves from side to side. Once the line

is complete, the paper is advanced and another line begins. In a relatively short time, a full image has been created.

The printer's advertised resolution (often 1,440 x 720 dots per inch) actually only applies to pure black and white images. The color resolution is somewhat lower. To create a full gamut of colors, the four inks must be over-

printed and dithered. Although

you can create darker colors by applying one color on top of another, lighter colors can only be created by printing the colors sparingly, allowing the white of the paper to show through. To compensate for this need to dither, newer color inkjet printers use ever-smaller color nozzles to create a much smaller dot of ink. The finer

the color dot, the smoother the color dithering, and the sharper the overall image.

A pot of gold

The color inkjet printer has all but eliminated the need to rush out to print shop for small jobs and color proofs. Perhaps more importantly, it has put affordable professional quality output in the hands of consumers. It's a tool few home business owners and college students can go without. **MM**



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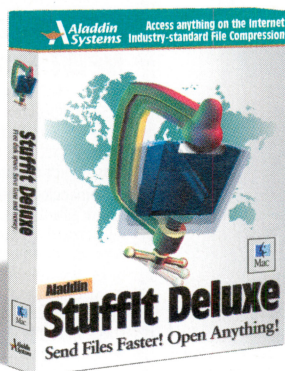


MacHome magazine, in conjunction with the **Apple Developer Connection**, built this **NEW** specialized adver-

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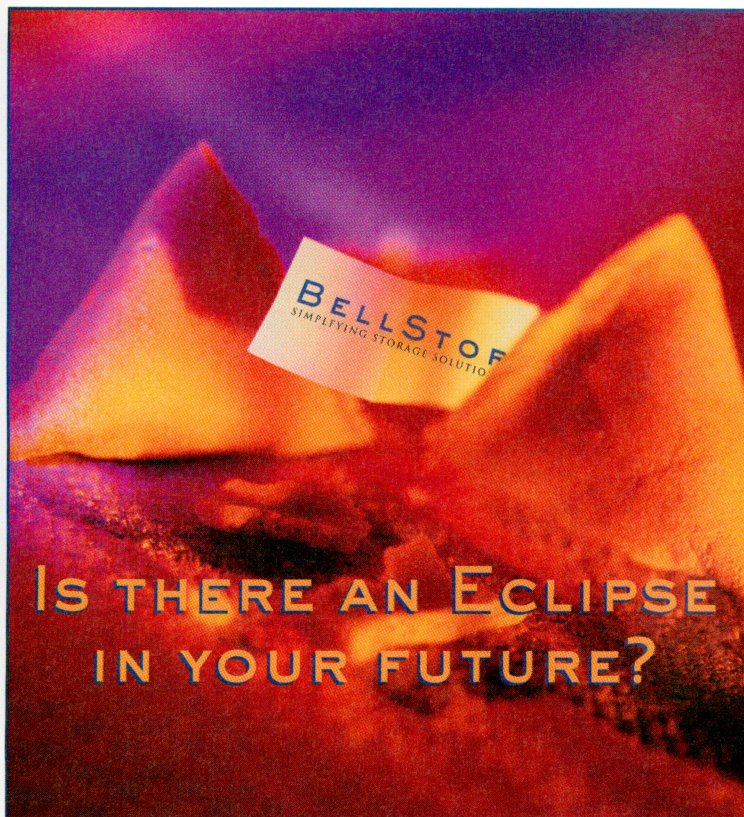


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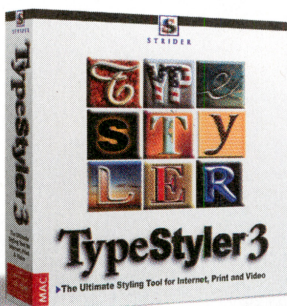
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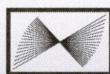
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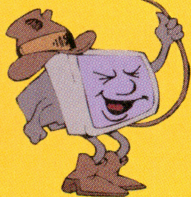
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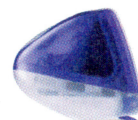
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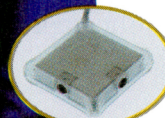
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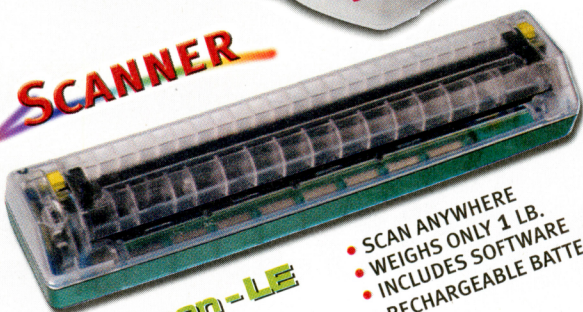
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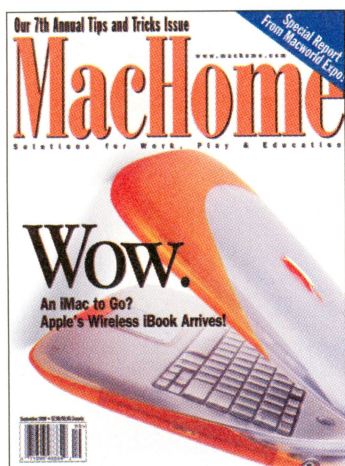
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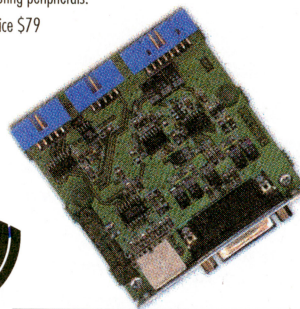
The gPort uses the internal modem slot for "board level" compatibility and provides a great transition for people with existing serial equipment. Retail price \$49



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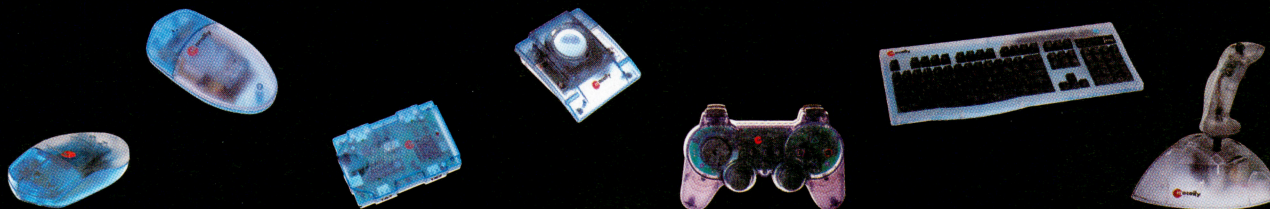
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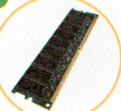
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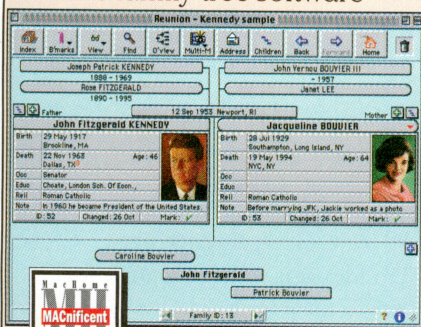
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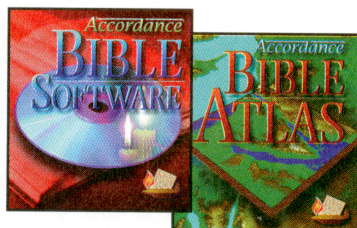


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[Commentary]

By Helen Bradley

Making a Flyer with Tear-Off Strips

If you've ever been caught without pen and paper when you've seen a notice that interests you, such as "Room for Rent," or "Car for Sale," you're sure to appreciate the usefulness of creating a flyer with tear-off edges.

This type of flyer has a strip of handy tear-off sheets down its right side so anyone who's interested can simply tear and take the important details with them — without removing the entire notice!

I've created this notice using

This month, **MacHome** is proud to present our newest contributor, **Helen Bradley**. Helen will be back periodically with more hands-on projects like this one.

Microsoft Word 98, but you can follow the basic concept in most word processing programs.

Step 1

Begin with a new document by clicking the New button on the standard toolbar. Set the page margins by selecting Format, Document, Margins tab. Set the Top, Bottom, Left, and Right margins to .5", and the From edge Header and Footer distances to 0". Click OK. If a message appears warning that the margins are outside the printable area of the page, click Fix.

Step 2 If you can't see the entire

page on the screen, choose View, Zoom, Whole Page, and click OK.

Step 3 All the information on your notice will go inside a table, which makes the layout simple to manage. To create a table, choose Table, then Insert Table, and set the number of columns to 2 and the number of rows to 10. Click OK. Using your mouse, drag the bottom border of the table down to the foot of the page without forcing the table to split over two pages. Click inside the table and choose Table, Select Table. Now choose Table, Distribute Rows Evenly.

Step 4 Using your mouse, drag the vertical line that runs down the middle of the table to the right until it marks off about 2/3 of the page. Place your cursor in the first column of the table and choose Table, Select Column, and then choose Table, Merge Cells. This gives you one large cell for your notice and 10 smaller cells for tear-off details.

Step 5 Type the information for the tear-off slips into the top right-hand

cell and format it with appropriate font and size so the information fits comfortably in the cell. Now, highlight the text and click Copy, then move to the cell below and click Paste. Repeat this for all the cells in the right column.

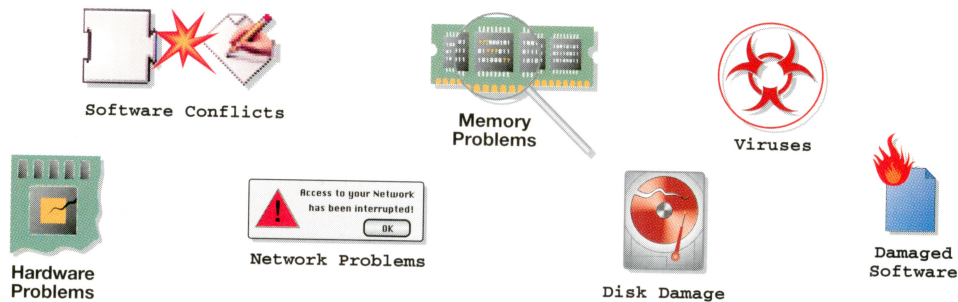
Step 6 Now you can add your image and text to the large cell. To add an image click inside the cell and choose Insert, Picture. Choose From File or Clip Art, select the image, then click Insert. If the image disrupts the table, select it and click Format, Picture, select the Position tab, and check Float over text. From the Wrapping tab, set Wrapping Style to None and click OK. Now position the image in the large cell of the table and use the sizing handles to size it to fit.

Step 7 Add the text for your notice and format it using a font and size that can be seen at a distance. Avoid using all capital letters because they are very hard to read and take up more space than lower-case letters.

Step 8 When you have completed your notice, remove all the borders from the table by placing the cursor inside the table and choose Format, Borders, and Shading. From the Borders tab select None, from the Apply to dropdown list choose Table, and choose OK. Save and print a copy of your notice.

Helen Bradley specializes in writing hands-on tutorials. Her columns appear regularly in a number of publications in Australia, Canada, UK and the USA. Contact Helen at helen@helen-bradley.com 

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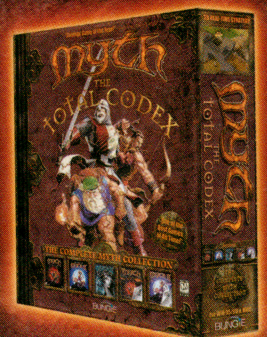
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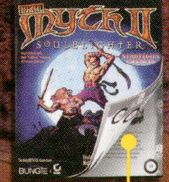
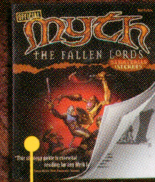
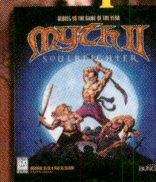
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